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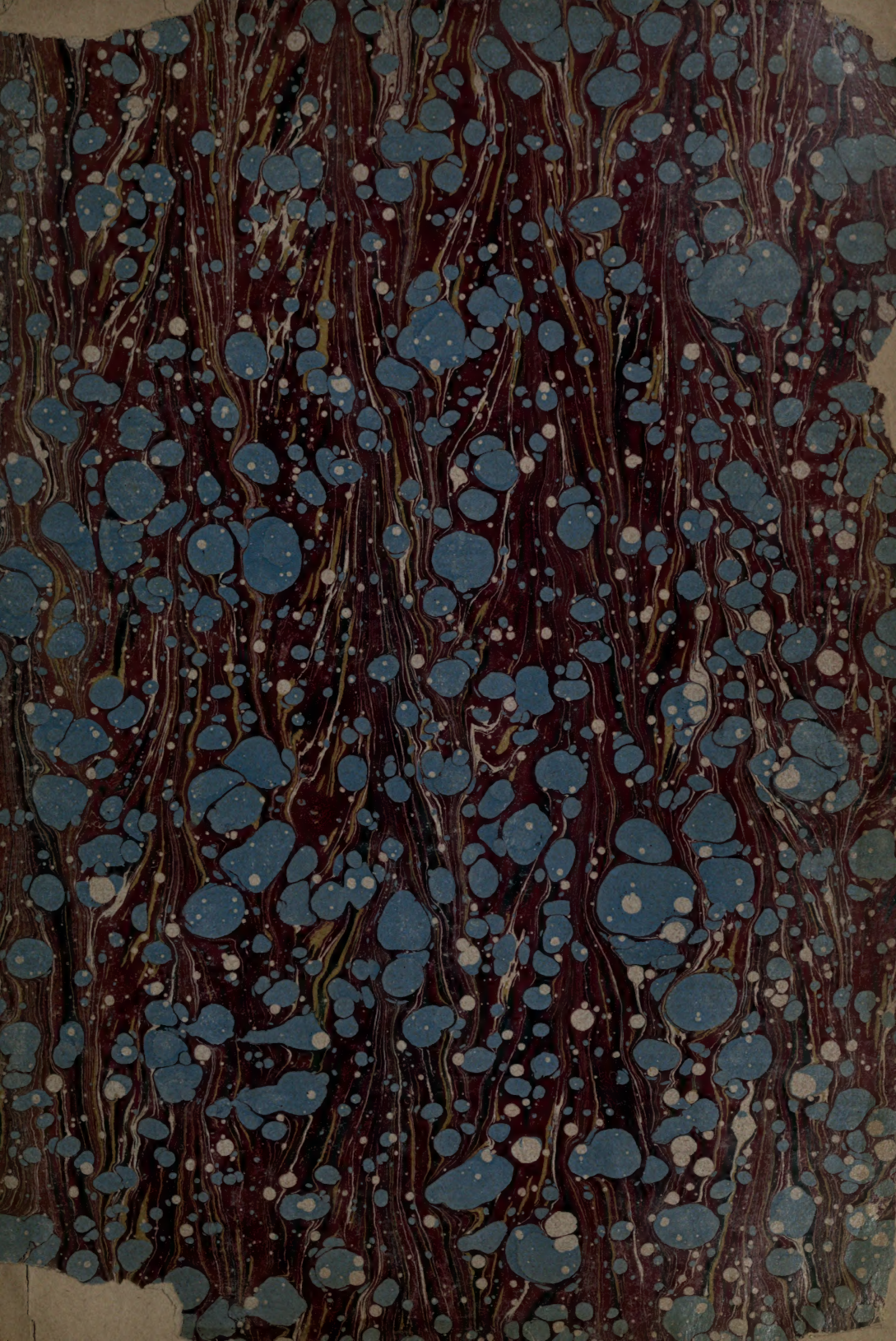
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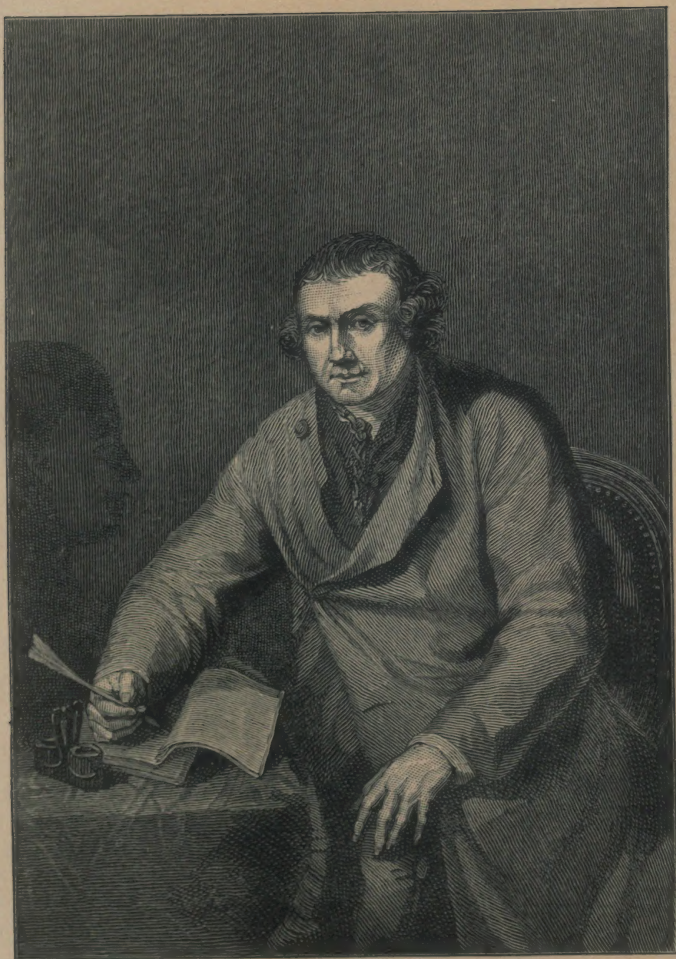


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JOHN HUNTER, F.R.S.

THE FAMILY PHYSICIAN.



THE
FAMILY PHYSICIAN.

A Manual of Domestic Medicine,

BY PHYSICIANS AND SURGEONS OF THE PRINCIPAL
LONDON HOSPITALS.

TO WHICH IS ADDED

THE LADIES' PHYSICIAN.

SUBSCRIPTION EDITION.

*

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1883.



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INTRODUCTION.

DISEASE may be defined as being any condition of the organism which limits life in either its powers, enjoyments, or duration. This, we admit, is not a strictly scientific definition, but it is, we believe, as good a one as can be given in the present state of our knowledge. It is obvious that we cannot give a strictly accurate definition of disease until we possess a satisfactory definition of "health," and this we are not likely to arrive at until we can express in words the idea that we entertain of the still more fundamental fact of "life."

Fortunately for us it is possible to study the principles of health and disease, without being called upon to define what we mean by these terms. It is not always easy to express our meaning in a few set words, nor is it necessary that we should do so. We all understand that in health we recognise the natural or standard condition of the living body. We all know that it implies freedom from pain and sickness, and freedom from all those changes in the natural fabric of the body that endanger life or impede the easy, regular, and effectual exercise of the vital functions. Health does not signify any fixed and immutable condition of the body, for the standard varies in different persons according to age, sex, and original constitution, and even in the same person from week to week, and day to day. Health does not necessarily imply the integrity of all the bodily organs, for a man may be perfectly healthy who has lost an eye, or even an arm or a leg. If we can only form a clear conception of what we mean by health we shall have no difficulty in understanding what is meant by disease, for disease, as we have already seen, is some deviation from the normal standard of health. By disease we understand some uneasy or unnatural sensation which is manifest to the patient, some embarrassment of function which he or his friends may perceive, or some unsafe though hidden condition of which he may be quite unconscious.

It should be borne in mind that by disease we mean the sum total of certain morbid changes that take place within the body. The mistake is often made of supposing that disease is a something which has a distinct entity, that it is something that is taken into the body, and may be cast out again by appropriate remedies. You often hear patients, and even doctors, talk of "driving the disease off through the kidneys," or "sweating it out of him." Many people seem to regard disease as being something which has distinct physical properties, something that can be felt and seen. It is common enough to hear people say that "he threw the disease off his stomach, just for all the world like a lump of currant jelly," or for them to use some expression showing equally conclusively that they regard disease as having a distinct entity.

As has been very truly said, disease under all circumstances and to all degrees, is

the lowering of life, and even in its most trivial forms it must be regarded as the "shadow of death." Some diseases are, however, of very much greater moment than others. A corn is a disease, and so is a cancer, but they differ so widely in their effects on the constitution, that we seldom recognise the fact that they are both expressions of a damaged existence.

We estimate the importance of a disease by the power that it possesses of limiting life in its utility, its enjoyment, or its duration. Some diseases have a tendency to cut short life suddenly, as, for example, certain diseases of the heart, and that frightful malady known as angina pectoris, or suffocative breast pang. Then other diseases, although they never arrest life suddenly, have a tendency to shorten its duration. Cancer is probably the best example of this class. Consumption not only shortens life, but sometimes, when copious bleeding from the lungs ensues, kills immediately. Then there are certain other diseases which, although they do not cut short life suddenly, or limit its duration, make it almost useless. Thus many a sufferer from chronic bronchitis or winter-cough is afraid to go out in the open air on a cold day, and an asthmatic is completely helpless as long as his attack lasts. Epilepsy is a disease which prevents the unfortunate sufferer from following many occupations. A man is, we will suppose, a carman, or a porter on a railway, and he has a fit. He is forthwith discharged; there is no help for it, the safety of others demands it. The fit may occur at any time and without a moment's warning, and it is impossible for him to obtain another place, for every one is afraid to employ him. The result is that he rapidly becomes reduced to a condition of poverty, and ultimately drifts into the workhouse. These cases are by no means uncommon, and several have come under our immediate observation. Here the disease has no tendency to shorten life, and is of importance simply because it prevents the sufferer from following his occupation, and makes him a burden on the working portion of the community. Then again, there are other complaints which are of importance simply because they interfere with the enjoyment of life. A man becomes hypochondriacal, he has nothing the matter with him, but he fancies he is suffering from all kinds of diseases. His life is a misery to him, and he is a nuisance to every one else. His condition in no way interferes with his capability of earning a livelihood, and he may perform his duties in the most exemplary manner, but his very existence is hateful to him. We estimate the importance of any particular disease by our power of placing it under one or other of the categories we have mentioned.

The number of diseases from which a man may suffer in the course of a lifetime is very great, and, indeed, if we include all their differences in kind and degree, is scarcely calculable. These diseases are, of course, recognised by distinctive names. The nomenclature of diseases is, to say the least of it, a very mixed one. Some time ago an attempt was made to introduce the binomial system into medicine, but the difficulties were insurmountable, and it had to be abandoned. The proposition was to give every disease a generic and a specific name, so as to make it assimilate with the nomenclature adopted in botany and zoology. The attempt, as we have said, was a failure, and on the whole we are not sorry for it, for we get along very well with our old-fashioned names and terms, many of which have been in use for centuries. It is very curious to notice in what diverse fashions diseases

have been named. Some are called after a prominent symptom, such, for example, as whooping-cough and writer's cramp. Some are named after the rash which they present, as nettle-rash, small-pox, scarlet fever, and so on. Other names indicate that the disease is characterised by a certain change occurring in some particular organ or region of the body, thus we speak of bronchitis, which is inflammation of the bronchial tubes, and of peritonitis or inflammation of the peritoneum, the termination *itis* in these cases signifying inflammation. Then again the names of certain diseases end in *æmia*, as, for example, anæmia, leucocythæmia, pyæmia, and so on, the termination in these cases signifying that it is the blood which is primarily at fault. This is undoubtedly a bad way of naming a complaint, for in many other diseases, such as small-pox and scarlet fever, there can be no doubt that the blood is essentially affected. It occasionally happens that a disease is named after the physician who first recognised it, or who devoted special attention to the elucidation of its nature and treatment, and we have familiar examples of this in Bright's disease and Addison's disease.

The terms "functional," and "structural" or "organic," are so frequently employed in connection with disease that it is absolutely necessary that we should arrive at some definite idea as to what we mean by them. We will not attempt any formal definition, but will endeavour to convey our meaning by one or two simple illustrations. In ulcer of the stomach and in cancer of the stomach a certain change takes place in the organ in question, which is at once recognised. There is something there which we can see and which we can feel. This is something tangible, something having distinct physical properties, something we can point to and say, this is the cause of death. Now this is what we call organic disease. But, on the other hand, a man may have suffered for many years from indigestion and marked derangement of the stomach, and yet after death the most practised anatomist, with all the means and appliances of modern science at his command, may fail to discover any change to account for them. This is what we call functional disease. To employ a very rough simile we may say that in the one case our engine is rusty and won't work, and in the other the piston is broken. As a rule an organic disease is of more importance, and is more likely to interfere with the duration of life than a purely functional one, but it is not always so. It may be more trouble to take the whole of an apparatus to pieces and clean it, than simply to restore one part that happens to have suffered.

Then again we speak of "general" or "constitutional," and "local" disease, but this is not a strictly accurate division. For example, we know that pneumonia is inflammation of the lungs, but it is absurd to call this a purely local disease. Look at your patient; his face is flushed, his tongue is furred, his skin is hot, his pulse is quick, and, in fact, he is ill all over. It is not only the lung that is at fault, but the whole body is suffering. You must treat the man, and not the lung. Doctors too often forget that they have to treat the patient, and not the disease. Now take the case of gout. No one supposes for a moment that this is a local disease. No one would maintain that if we were to cut off the patient's big toe we should relieve him of his pain, or cure him of his malady. And so it is with many complaints that are supposed to be local. The local signs or symptoms are

simply a manifestation of a general constitutional disturbance. The whole brunt of the attack, it is true, often falls upon one particular part, but if that part were not there it would assuredly display itself in some other region.

One of the greatest advances that practical medicine has made during the last quarter of a century is the recognition of the fact that you cannot treat a local disease without reference to the constitution of the patient. For example, in bronchitis in a child both the prognosis and treatment would be greatly modified by a knowledge of the fact that the little one came of a consumptive stock, or was the subject of rickets. Again, in Bright's disease our opinion would be influenced if we learnt that the patient had suffered from gout or syphilis. So in regard to many brain diseases, for the successful treatment of which a knowledge of the constitution is essential.

Of constitutional diseases we recognise the fact that some make their entrance into the system from without, as, for example, scarlet fever, measles, and chicken-pox, whilst others cannot be traced to external poisonous influences. A man has an attack of rheumatism or gout, but we never suppose that he has caught it of any one, but say that it is something peculiar to his constitution, either hereditary or acquired. The so-called local disease we classify according to the organ primarily at fault. Thus we speak of diseases of the nervous system, of diseases of circulation, respiration, and so on. Then these may be further subdivided; for example, in nervous diseases we speak of affections of the brain, of the spinal cord, and of the nerves.

We now pass on to the consideration of the "etiology" or causation of disease. Sometimes it is quite easy to discover the cause of a malady, or of any particular attack, and sometimes it is very difficult and well-nigh impossible. Let us take a very simple case, where the cause of the disease is readily recognisable. A child is brought into a room where some one is ill with scarlet fever, and after a certain interval the disease makes its appearance and runs its usual course. Here we have no hesitation in saying that the cause of the fever was contagion—the child caught it. But it must be remembered that if half a dozen children had been taken into the sick-room, they in all probability would not all have caught it, some would have escaped, though they had never had it before, and were equally exposed to the infection. This is quite in accordance with our general experience, for we know that there are certain people or certain constitutions apparently unsusceptible to certain poisons. There are people who have been vaccinated over and over again, but who "never take," however often it may be tried, or however varied may be the source from which the lymph is obtained. Then, again, physicians know that among the students in the fever-wards the slightest exposure will in certain instances ensure an attack, whilst others, even more diligent in their attendance on the sick, escape altogether. There is even in some families a certain proclivity to fever, of which probably most of us have met with examples, whilst others escape from even the closest exposure to concentrated contagion. How do we account for this? What is the explanation of it? We don't know. All we can say is that certain people are "predisposed" to certain kinds of disease, whilst others are indisposed, or not predisposed. When a person has already suffered from a fever, we know that he

is "protected" from a second attack, or no longer predisposed to take it again, but this absence of predisposition is undoubtedly present in many instances where there has been no previous attack. These constitutional peculiarities, if we may so term them, are not unknown in other departments of nature. On some sunny slope, well drained, and well exposed to wind and rain, uniformly cultivated and manured, sown with the same seed on the same day and by the same hands, we find inequality of produce; the fair expanse is marred by some one spot where the crop is dwarfed, insufficient, or altogether absent. We cannot account for this, for it may occur at some spot where on former years there has been from the same materials of labour and seed an abundant result, nay more, where next year or a year or two later there may be, under identical circumstances, an exceptionally fine crop. From this it would appear that there must be something more than a prepared soil and healthy seed, something more than an intense contagion and direct exposure to its influence, and this something we call "susceptibility or predisposition."

In many instances it is very difficult to say what the cause of a disease has been. For example, a child is attacked with St. Vitus's dance; there has been no previous illness, we cannot learn that the child has been frightened, and we are absolutely in the dark as to why those peculiar symptoms should have made their appearance.

Then again the same cause is in different people often followed by very different results. For example, half a dozen people partake of an indigestible meal, one of them is none the worse for it, a second suffers from indigestion, a third has a fit, a fourth gets an attack of gout, a fifth has an attack of asthma, whilst the sixth has diarrhoea. Here the exciting cause, the indigestible meal, is the same in all, but the results are widely different, and we say that this depends upon the constitution. We recognise the fact that certain people are liable to suffer from certain diseases, in other words, they are subject to them, and anything that throws them off their equilibrium is likely to induce an attack of the disease to which they are "predisposed."

We must now consider briefly what are the predisposing causes of disease. Some people are hereditarily predisposed to certain complaints. The son of a gouty parent is very likely to become gouty unless he specially guards against his predisposition by strictly abstemious habits. Cancer is more or less hereditary, and so is consumption. That consumption may be transmitted from parent to child is one of the best-established facts in medicine. The extreme frequency of consumption in some circumscribed country districts is, in part at least, explicable by the frequency of intermarriage amongst persons living in such districts; and conversely, the exemption of particular circumscribed districts from this disease is in part due to the same cause. In the one case, from some special circumstances, consumption has been introduced into the district, and then spread in it from frequent intermarrying. In the other case, the freedom of the district from the disease at any given time is the cause of its continued freedom. Intermarriage of the inhabitants, the disease being present, spreads it far and wide, intermarriage of the inhabitants, the disease being absent, prevents its introduction. This circumstance has not been sufficiently recognised in estimating the causes of the relative frequency of consumption in different localities.

Syphilis, as we all know, is communicated by the parent to his offspring, and a frightful legacy it is. The mystery of original sin, the punishment "to the third and fourth generation," are paralleled and vindicated by the observations of the physiologist. On the other hand, certain diseases are not in the slightest degree hereditary. A man may suffer for years from most distressing dyspepsia, and yet his children may exhibit no predisposition to stomach disturbance. Why certain diseases should be transmitted and others not we do not at all know. We all recognise the fact that certain conditions of the body are transmissible, that a son may exhibit, not only the features, but the tone of voice, and even the very walk of one of his parents. Hereditary transmission enters into the moral as well as into the physical order of the world. It is common enough to hear it said of a man, that he is a "regular chip of the old block," and we all believe more or less in family likenesses, and that certain peculiarities of feature run in families. We say that a boy has "his father's nose," or "his mother's eyes," as the case may be.

Then, again, we know that features, form, frame, peculiarity of constitution, susceptibility to certain agents, not to speak of character, mental and moral, the passions and the intellect, are often derived from progenitors many steps upwards in the ancestral tree. Individually we are combinations of many ancestors. The actual traits of the parents may or may not be seen in their offspring, and it is more common to find that one or two only are represented in each child. The remainder are doubtless derived from some ancestor long forgotten, whose intellectual powers or defects, infirmities or vigour of body, whose faults and follies, whose brilliant powers or miserable failings, may be reflected in a remote descendant, as he himself has derived them from some distant ancestor. We are accustomed to say that gout may skip a generation, and why may not it skip four or five? Hereditary tendency is probably of far more remote origin than is commonly supposed, and is a reflection of the tendencies of untold numbers who have preceded us in the family tree. It is a frightful thing thus to look back on the sins of our forefathers and to recognise the transmitted punishment, but it is in accordance with other facts of moral origin and highest dictation.

It is sometimes asserted that when people live together, or are intimately associated, they grow like each other, and we know that school-boys are apt to catch any peculiarity of habit or expression of their tutor or schoolmaster. This is undoubtedly the case, but it is a very different thing from heredity. Physical peculiarities acquired accidentally are not transmitted. A man loses a leg, but his children are born with their proper complement. For generations past it has been customary to cut off the ears and tails of certain breeds of dogs, but it has not resulted in the establishment of a race of animals unfurnished with these useful appendages. On the other hand, when by a curious freak of nature a man is born with a supernumerary finger or toe he may transmit this peculiarity to his children. It sometimes happens that children of one sex exhibit an hereditary taint whilst those of the opposite sex escape it. The boys "take after" the father and the girls after the mother, and a tendency to disease may be more or less powerful as the child resembles one or other parent.

It would seem that certain conditions have a tendency to develop the hereditary

taint. Privation, excesses, errors in habits of life, sedentary occupations, the pernicious influence of certain trades, grief, anxiety, and the other wasters of vital power, are undoubtedly important factors. The development of a constitutional predisposition is favoured by those errors of life, those sins against natural laws which we are all of us committing so frequently. To this class belong all excesses which waste the vital powers; undue carefulness and anxiety, over-watching, the exciting race after wealth and distinction, and the ineffectual struggle against poverty. The over-nursed in close and luxurious chambers; the student outstepping his powers on a short Alpine holiday; the sorely-taxed governess, toiling all day and sitting up half the night to enjoy the luxury of solitude and converse with books and absent friends; the scantily-clad lady undergoing, in ill-ventilated rooms, the dangerous excitement of the ball;—these are all labouring thoughtlessly to prepare the way for the development of any latent but hereditary taint to which they may be subject.

Diseases that are hereditary usually make their appearance at a much earlier age than when acquired. Gout, for instance, is extremely rare before the age of twenty, but in cases of marked family predisposition it may be met even in boys at school. The mistake is often made of supposing that because in a certain case a disease is hereditary there is little or nothing to be done for it in the way of treatment. On the contrary, so far from relaxing our efforts to effect a cure, we should treat it all the more promptly and energetically.

Strictly speaking, age cannot be said to constitute a predisposing cause of disease, although it carries with it certain things which may be. We meet with people of all ages who are free from illness and discomfort of any kind. It is not uncommon to hear a man say that he has not had a day's illness for the last forty years. We might conceive the possibility of a person passing from the cradle to the grave without suffering from anything but the most trivial ailments. Practically, such instances are not often met with, for at some point or other in the long course of life, the chain of good succession is broken by a faulty link or an unexpected blow, and then follow one or other of the many ills that make up the miseries of common life and average health.

Although age is not *per se* a predisposing cause of disease, there are certain disorders which are far more common at some periods of life than at others. In infancy there is very little power of resistance, and a very slight disturbing force will serve to upset the equilibrium of health. Infants have but little power of maintaining the bodily temperature, and if exposed to cold suffer much more than adults. Errors of diet readily irritate the delicate mucous membrane of their stomach, and they are especially liable to suffer from diarrhœa. Then, again, the process of teething is often accompanied by convulsions and other signs of marked disturbance of the nervous system. In boyhood there is, on the one hand, the risk of accident resulting from high animal spirit unrestrained by discretion, and on the other the fear of excessive mental labour, as in working for examinations and other objects of early ambition. Later on, when he comes of age, he is anxious about his future prospects, about the profession or business he is about to enter, and for which he is preparing, and there are many

temptations of all kinds to which a young man is exposed, often without the power of resisting them. Still a few years later he has a wife and family to provide for, and realises the fact that the struggle for wealth and honour, and even for very existence, is a hard one. Between forty or fifty he has made his mark or has failed in the attempt; in the former case he relaxes his efforts, takes things easily, and does his best to enjoy the reward he has so dearly won; in the latter case he is crushed, and soured by his want of success, and suffers not only mentally and morally, but also physically. In old age the strong man becomes a child again, and is once more dependent on the kindness and attention of those about him; as at the other extremity of life, he is peculiarly susceptible to cold, and if not properly cared for, his small remnant of vitality is readily extinguished. It will be seen that these circumstances must of necessity exert a powerful influence on the diseases which are incidental to the different periods of life.

Sex can hardly be said to be a predisposing cause of disease, although undoubtedly many diseases occur far more frequently in one sex than the other. It is sometimes said that every disease is common to both men and women, but this is not quite true; for instance, no one would maintain the proposition in the cases of diseases of the womb. Hysteria is almost confined to women, although undoubtedly cases are occasionally met with in men who have been pulled down by excesses either of work or the reverse. Hypochondriasis, on the other hand, is seldom met with in women, and it would seem almost as if these two complaints had made a compact to respect each other's territory. Clergymen's sore throat is chiefly a man's disease, but ladies who have to speak or sing in public often suffer from a closely analogous complaint.

The nervous, mental, and moral endowments of the two sexes are more or less influenced by social considerations, and the customs and habits of society. Women, as a rule, stay at home, men go out to business; women devote themselves to individuals, men to principles. The woman's life is sedentary, the man's active. In women functional disturbances of the nervous system predominate. How all this would be if the woman went in for a more active life, and the man stayed at home to nurse the baby, we cannot say, but there is no doubt that if women were brought up in a more manly fashion there would be less hysteria. We have no hesitation in saying that as far as their physical well-being is concerned it would be much better for girls if they were more frequently treated like their brothers. Before the age of thirteen or fourteen, the difference between the sexes is comparatively slight, and many a young lady would be considerably benefited if she were made to run, and walk, and swim, and row, instead of being prevented from taking healthful exercise and recreation.

It is a curious circumstance that women far more frequently have a second attack of scarlet fever, measles, and other acute diseases than men. It is possibly explicable by the circumstance that they are more frequently brought into intimate contact with children.

One of the commonest predisposing causes of disease is drunkenness, that fierce rage for the slow and sure poison that oversteps every other consideration, that casts aside wife, children, friends, happiness, and station, and hurries its victims

madly on to degradation and death. Some are impelled by misfortune and misery to the vice that is ruining them—the failure of worldly expectations, the death of those they loved, the sorrow that slowly consumes, but will not break the heart, drives them to it, and they present the hideous spectacle of madmen dying by their own hands. Others with open eyes plunge into the gulf from which he who once enters never rises more, but sinks deeper and deeper down until recovery is hopeless.

Temperament is not without its influence on disease. We all recognise the existence of different varieties of temperament; even the least observant mentally contrasts the typical nervous, excitable Frenchman with his dull, heavy, phlegmatic Dutch *confrère*. Many temperaments are readily recognisable. First, there is the man with sanguine temperament; he is quick and lively in his manner, has an excitable pulse, a florid skin, a flushed face, eats and digests well, and sleeps quickly. He is generally thought to be predisposed to inflammation, but this is not so in reality, and almost the only thing he is especially likely to suffer from is an accident, the result of his pluck, daring, and impetuosity. Then there is the man of phlegmatic or lymphatic temperament, with his cold hands, pallid skin, and fair complexion. He usually eats well, has a fair amount of ability, and a cool, calm, calculating disposition. He is rather liable to suffer from the effects of cold, and in winter often has chilblains. Next there is the bilious or melancholic individual; he is usually dark, both physically and mentally; he has dark hair, and dark eyebrows, and a sallow complexion. He is a heavy sleeper, and is often languid and tired. He suffers from disturbed digestion, a coated tongue, constipation, and flatulence. He is not by any means a good patient, and when he gets typhus or typhoid fever it is apt to go hard with him. Lastly, there is the nervous man, fidgety, restless, easily excited, easily depressed, up one moment and down the next. He is impulsive, but soon gets tired of his hobby, and takes up something else. He is usually a short sleeper, and any excitement or anything wrong with his affairs will often keep him awake all night. He is a likely subject for tic and spasm of all kinds, and is on the whole not an unlikely person to become hysterical. These are the chief forms of temperament, but it must be remembered that two or more may be combined in the same individual. Fortunately, we are not all built on one of these four types.

In connection with temperament, we must explain the meaning of “diathesis.” It means almost the same as temperament, but is a newer word. It is often used in a vague way, and without any very definite meaning. When we speak of a man as having the gouty diathesis, we generally intend to convey the idea that he is a middle-aged, full-blooded, red-faced individual, who is likely at some time or other to become the subject of gout. Many doctors make a point of always treating the diathesis. Thus, in the case we have supposed they would always give the patient colchicum, whatever he might complain of.

For the maintenance of health, it is necessary that the body should receive a definite supply of food. When people are below par from defective feeding, they are very liable to contract contagious diseases from the slightest exposure to infection. It is a good practical rule not to go into a room where there is fever on an empty stomach. Army doctors know that if a battle is fought before breakfast, or after a

long-sustained fast, the wounded are far more likely to suffer from lock-jaw. It is a good plan to serve out rations before an engagement, if possible; the worst stomach for a fight is an empty stomach. Then, again, in civil life, we constantly find that the over-worked and poorly-fed supply the largest number of cases of hysteria and neuralgia. How frequently neuralgia is met with in half-starved needlewomen! What half these people want is food, not medicine. Even among the middle and upper classes of society there are many people who fail to take enough food, although, it must be confessed, that usually the fault is the other way. Many people do not eat simply because they take little exercise, and have no appetite. Many perforce lead solitary, sedentary lives, and will not eat simply because they are alone, and they are tired of seeing the same things and same kinds of food put on the table day after day. There is no doubt that bad cooking has a great deal to answer for as a predisposing cause of disease. Many people go without food from religious motives, and those who do this are usually the least fitted for the strain that it involves. Many people take absolutely enough food, but take no care to ensure variety. Some, for instance, never take fruit in any shape or form. They regard it as a luxury; it is not put on the table habitually, and they never think about it. Then, again, many people never eat fat, and this is especially the case with those who have a tendency to consumption. Children very commonly cut off the fat from their meat, and leave it on their plates. They should be encouraged to take a fair proportion of fat with their food, but if they show a positive dislike to it, it is of no use trying to force them. Even when hot fat cannot be eaten, the fat of cold meat is often relished and easily digested. People who have a tendency to consumption should take plenty of butter, and more especially milk. Consumptives often take as much as eight pints of milk in the twenty-four hours with decided advantage. It should be remembered that the milk is then to be used as an article of diet, and not for the purpose of relieving thirst, and it should be taken at regular intervals like the meals, and not in a hap-hazard fashion. We believe that no better plan could be adopted in threatened consumption than (where means and the season of the year permit) to take up a summer residence in the Pyrenees or Alps, in some of those numerous open valleys, in the pure air of the middle region, where the pastures are rich, and with daily exercise in proportion to strength to try the ingestion of large quantities of milk of the purest quality. For people who will not take fat in other forms, fat bacon for breakfast will often supply the want. White haricot beans or lentils with rich butter sauce often, in these cases, form a valuable article of diet. Many individuals, if they fail to get their proper quantum of food, get weak, not only of muscle and nerve, but also mentally weak. Some people do well on what is called "Bantingism," whilst others suffer considerably under this regimen. Some people get fat on the most abstemious diet, whilst others are always eating, and as their friends say, never seem a bit the better for it. The absence of vegetables, or of the vegetable acids in some form or other, is a powerful predisposing cause of scurvy. Many people, especially women, do not take enough to drink, and suffer, in consequence, from constipation. As we shall see when we come to speak of this complaint, even long-standing torpidity of the bowels may be removed by the practice of taking a tumblerful of cold water the first thing in the

morning. An absence of salt produces an unhealthy condition of the skin, and, it is supposed, has, at all events in damp countries, like Holland, a tendency to favour the development of worms. Then, again, there may be a deficiency of another kind of food, for the patient may not get enough fresh air, and oxygen is even more important for the maintenance of life than beef and mutton. We know that many vegetables, when grown in the dark, lose their colouring matter, and we know how pale and flabby people become who spend their lives in underground, badly-lighted, ill-ventilated kitchens and cellars. In our large over-crowded cities, and more especially in the metropolis, it is no unusual thing to find from seventeen to twenty people living, eating, and sleeping in a room not more than ten feet square. The filthy and miserable appearance of many parts of London can hardly be imagined by those who have not witnessed them. Dickens's description of a London slum is no exaggeration, as we can testify. "Wretched houses," he says, "with broken windows, patched up with rags and paper; every room let out to a different family, and in many instances to two or even three—fruit sellers and 'sweetstuff' manufacturers in the cellars, barbers and red-herring vendors in the front parlours, cobblers in the back, a bird-fancier on the first-floor, three families on the second, starvation in the attics, Irishmen in the passage, a 'musician' in the front kitchen, and a charwoman and five hungry children in the back one—filth everywhere—a gutter before the houses, and a drain behind—clothes drying and slops emptying, from the windows, girls of fourteen or fifteen with matted hair, walking about barefoot, and in white great coats, almost their only covering; boys of all ages, in coats of all sizes and no coats at all; men and women, in every variety of scanty and dirty apparel, lounging, scolding, drinking, smoking, squabbling, fighting, and swearing." Even people who work chiefly by artificial light, as miners and post-office sorters, suffer from a chain of evils which soon bring them below par. They become nervous, depressed, and low-spirited, and in the long run often take to drink.

There are certain diseases distinctly due to the introduction of some deleterious matter into the system either with the food or air. We are not now referring to the slow poisoning produced by the inhalation of minute particles of arsenic given off by arsenical wall papers, or to other similar cases where the injurious effect is the result of some recognised animal or vegetable poison. We mean rather those equally deadly, but far more subtle poisons, which are the cause, or supposed cause, of many of our fevers, as cholera and typhoid. It has been conclusively proved that the germs of typhoid may be introduced into the organism by means of impure water, and that the poison of cholera and some other diseases may be carried for immense distances by currents of air. What the exact nature of these germs may be we do not actually know, we have not been able to isolate them, or to recognise them by any chemical or microscopical test, and know them only by the startling effects they produce on the animal economy. We all know that many diseases are contagious, that is, are capable of being transmitted from one person to another. It would serve no useful purpose to discuss the primary origin of the various contagious poisons, or their capability of being re-developed if once exterminated. It is probable that now-a-days the development of any case of contagious disease *de novo* is infinitely rare, and that in nearly every instance it

has been communicated from some other person suffering in a similar manner. When small-pox, for example, breaks out in a house we all believe that it has been caught from some one else, and if we fail to discover the mode of communication we see no grounds for altering our opinion, but believe that in that individual case our information is defective. The majority of contagious affections with which we have to deal are communicated from one human being to another, whilst a few, such as hydrophobia and glanders, are communicated by the lower animals. It has been suggested that possibly the poisons of some contagious diseases may be derived from plants, but no conclusive evidence has been adduced in support of this view. The contagious particles must exist under many different forms, and be given off in many different ways. Some affections are caused by obvious parasities, and of this we have familiar examples in itch and ringworm. Most of our contagious poisons have no palpable existence, but are given off in the various exhalations and excretions of the body, but especially in those emanating from the lungs and skin. Some are supposed to exist in the breath alone, as in the case of whooping-cough, whilst others seem to be present in all the exhalations. Hydrophobia is an instance of a contagious malady transmissible only through a special secretion—the saliva.

Many contagious affections are conveyed from one individual to another without the necessity for any immediate contact between them. The contagion is given off into the surrounding atmosphere, and thus passes to the unaffected person, being inhaled, or swallowed, or absorbed by the skin. Diseases that can be thus communicated are said to be “infectious,” whilst the term contagion is usually limited to instances in which the disease is communicated by actual contact. The contagious principle often becomes attached to articles of clothing, bedding, hair, and so on, and in this way disease is propagated. These particles retain their vitality or activity for immense periods of time, and may in this way originate several epidemics at long intervals. Persons passing between the sick and healthy often carry a contagious disease to the latter. A contagious poison may also be conveyed by clothes sent to the wash, or sent home from an infected school, or by letters, cabs, and numerous other agencies. The careless manner in which many people help to propagate infectious diseases is something startling. We recently heard of the case of a lady who left the bed-side of a child suffering from scarlet-fever, took a cab, and went to church, probably sitting side by side with healthy unprotected persons. The contagious principle often becomes attached to furniture, or to the floor and walls of rooms, and thus infection may arise after an indefinite interval, if the precaution has not been taken of having the apartments properly disinfected. It has been asserted that flies and other insects may be the means of disseminating contagious diseases, by alighting first on infected and then on healthy individuals, and such a mode of propagation is quite possible. There are marked differences with regard to the facility and certainty of transmission of contagious diseases. For example, scarlet fever is less contagious than measles or whooping-cough, but far more so than either typhus fever or diphtheria. The probability of a contagious disease being communicated is in direct proportion to the dose, that is to the quantity and strength of the poison which reaches the system, but it must be remembered that in many instances a very small quantity suffices. Most contagious poisons are destroyed by

extremes of temperatures, hence the *rationale* of baking clothes and boiling linen which has been in use in the fever-room, and the explanation of the disappearance of many epidemics during the colder months of the year. Many of these poisons are also destroyed by disinfectants, such as chlorine, and the vapour of burning sulphur. Their intensity seems to increase with overcrowding, as in those horrible "fever dens" of which we hear so much.

We have mentioned the term epidemic. By an epidemic disease we mean one that travels from place to place. Cholera is a striking example of an epidemic disease. It is always present on the banks of the Ganges, but at times it breaks its bounds, and travels all over the civilised world. It usually travels along the lines of human intercourse, and its rate of progress varies considerably in different epidemics. It may take two or three years to spread from India to America, or may do so in as many months. It is said that epidemics travel very much faster than they used to, but that even now in Russia, where in many places human intercourse is very limited, their progress is comparatively slow. Epidemics usually make their entry in this country either at Southampton, London, or Hull. Sometimes an epidemic of cholera will miss certain places apparently on its direct line of march, and then go back and invade them later. Sometimes an epidemic of cholera disappears abruptly after a high wind, just as if it were blown away: but generally it departs slowly and gradually, and in a manner more compatible with its dignity. Cycles of epidemics are sometimes observed, one disease being after a time followed by another, this by a third, and so on.

Some diseases are not epidemic at all, but are what is called endemic—that is, they confine their attention solely to their place of origin. If you want ague you will have to go to it, it will not come to you. Endemic diseases never spread from one person to another, and never go away from the locality except in the person of the individual.

We have shown that for the maintenance of health it is necessary that certain things should be taken into the body, and it is equally essential that certain other things should be given off from it. All waste materials must be got rid of, for if retained they would soon interfere with the working of the delicate mechanism of our organisms. The non-elimination of the urine for even twenty-four hours would be attended with the most serious results. Many people neglect their bowels, and the result is that the health always suffers sooner or later. We all know the untoward symptoms occasionally following a "sudden chill," or in other words, following arrest of the functions of the skin. Illness is occasionally produced by the abrupt cessation of some long-accustomed discharge. Women whose periods have been arrested by cold or exposure often suffer severely for some days subsequently. It is the rule in animal life that a certain amount of work must be done in return for the crude force taken into the system in the shape of food and drink. If a man were to take his accustomed quantum of food, but instead of working were to remain in bed all day, and do nothing, he would quickly suffer for it. The muscles of the limbs, if not used, very soon waste away, or get converted into fat. People who, although they may not remain in bed all day, take too little exercise, are seldom in really good health. They get fat and bloated, the extremities

are cold and flabby, the circulation becomes irregular, and there is considerable shortness of breath. In addition, they get loss of appetite, dyspepsia, flatulence, palpitation, and all manner of evils. The only thing is to make them take more exercise. Plato had such a high opinion of exercise that he said it was a cure even for a wounded conscience. A distinguished London physician recently stated that no young man could hope to keep in "good form" who did not walk at least ten miles a day, or take an equivalent amount of muscular exercise in some other form. Many people say that they cannot do this because they have not time, but attention to health is very good economy of time. Then, again, in addition to physical work, a man must do a certain amount of mental labour, for if he does not his intellect soon suffers. It is often said in the case of a delicate child that he or she should not be allowed to read or learn anything, and that the brain must be kept quiet. That is all nonsense; you cannot put the brain up in a splint, as you would a broken leg. The brain is incessantly working, and it would be all the better for having some healthy employment. Of course, what it wants is gentle exercise, and care should be taken that it is neither over-worked nor reduced to a state of stagnation. Then, again, when a man has been over-worked, he is told he must go down in the country and keep quite quiet, and not do anything. The result is that his life is a misery to him; he has been an active, busy man all his life, and now you cut him off from his old friends, his letters, his paper, and, in fact, everything that makes his existence enjoyable. The time hangs heavily on his hands, the days are like weeks, and the weeks pass like years, and the result is that he soon gets heartily sick of it, and instead of getting any better, rapidly gets worse. No, what you want to do in a case like this is to change his mental sphere, and not to knock off his work altogether. Try and get him to take an interest in farming, in the rotation of crops, botany, zoology, geology, archaeology, agrarian outrage, or anything he likes, but, at all events, give him something to do that he can take an interest in, and do not leave him to wander about all day with his hands in his pockets. This is *apropos* of the necessity for brain-work in some shape or other.

We have pointed out the necessity for the elimination of certain materials from the blood, but this elimination must not be excessive. It may be very good for a man to have a motion every day, but it does not follow that it would be twice as good if he had two motions daily. Excessive elimination is always an evil. Nothing more quickly pulls a man down than persistent diarrhoea. Women whose periods are too profuse are seldom healthy, and it may be stated in general terms that an excessive or long-continued discharge of any kind has a tendency to reduce the vital power. Over-work is another form of excessive secretion of force. We know that by the inordinate use of certain muscles, or sets of muscles, we may get either spasm or wasting. Of this we have examples in the diseases known as writers' cramp and wasting palsy. Then the over-work may be mental rather than physical. It would seem that some people are not adapted to all kinds of mental work, and it is probable that in many of us certain faculties practically remain undeveloped. Many people who are good classics could not work the simplest problem in Euclid to save their lives. If a man has no capacity for doing a certain thing it is useless to try and make him do it. If a man wants to be soldier, it is no good trying to

drive him into the church. This is a mistake that parents often make, and the results are usually disastrous.

The amount of work some people get through is simply enormous. Few people are harder worked than a London physician in active practice. We know a doctor who seldom gets more than four hours' sleep out of the twenty-four. He says that it is not that he couldn't do with more, but it is as much as he can get. Many busy men are constantly at work of some kind or the other from eight in the morning till past twelve at night. Some of course break down, but others can do this year after year, apparently without any detriment to their health. Instances are known of professional men who have not slept for five days together, and who have not been in bed for three weeks at a time. These sound almost like travellers' tales, but they are true, although, of course, they are exceptional cases. It is astonishing what interest and energy will do, in enabling a man to dispense with rest. It has been said that the twenty-four hours might be advantageously divided into three equal parts, eight hours for sleep, eight for meals, exercise, recreation, &c., and eight for mental work. Few men really require more than eight hours' sleep, but the majority of us have to do considerably more than eight hours' work in the day. It is not so much that a man wishes for the work, as that it is forced upon him. He, perhaps, is the only person who can perform a certain duty, and when, as is often the case, it is a question of life and death, it is almost impossible to refuse. Many people can never force themselves to do more than a certain amount of mental work, they get nervous, and headachy, and then it is all over with them. Forced work, as a rule, tells on a man much more rapidly than purely voluntary work, for in the former case it is usually associated with anxiety. Real over-work gives rise to loss of memory, a general sense of fatigue, and particularly of discomfort about the head, poorness of appetite, lowness of spirits, and other similar symptoms. It is worry that injures more than real work—care killed the cat. Some people are so happily constituted that they never worry much about anything, whilst others are in a fever of anxiety on every trivial occasion.

To get the maximum amount of mental work out of yourself you must be very abstemious in everything. You will find that men who by their brains have made a name for themselves have nearly always been small eaters and drinkers. Some of the finest scientific work of the century was done by a man who at the time was living almost exclusively on oatmeal porridge. The custom of taking a heavy meal in the middle of the day is fatal to all real work. People who have to live by their headpiece should never dream of taking either wine or beer for lunch. It is a small matter, but practically they will find that they can do twice as much in the afternoon if they substitute a cup of coffee for the alcohol. People who feel drowsy and stupid, and disinclined for mental exertion after a meal, may take it as an indication that they have been either eating or drinking too much. At the same time there is not the slightest objection to a glass of beer or a glass or two of wine with dinner after the greater part of the day's work is done. Those who are worried about their work may derive considerable comfort from a cigar or pipe. There is no reason why we should not avail ourselves of Nature's gifts, provided they in no way impair our capacity for work. For those who have much writing to do the practice

of getting up early in the morning is a most valuable one. You are fresh, and are quite sure to be free from interruption. In summer it is very enjoyable, and even in winter one soon gets used to it. It is just as easy to get up at four or five as it is at half-past eight. Some people display considerable anxiety to have the world properly aired before they abandon the welcome refuge of the bed-clothes, but when a man has work to do the sooner he sets about it the better. Barristers, statesmen, doctors, litterateurs, and theologians often suffer most frightfully from the effects of over-work. Too frequently a man cannot give up a part of his work without giving up the whole of it. He must either do it or throw it up entirely. Sometimes, however, little modifications in the details of work will afford considerable relief. Sometimes a man may be able to sleep out of town, even if he cannot do anything else. Or why should not he take his books, or his picture, or whatever it may be, down to the river and work there for a month or two? Even when this cannot be done, some assistance might possibly be obtained in the more mechanical parts of his work. Why should he not get some one to read to him instead of reading himself? Or why should he not get some one to write his letters and papers from dictation instead of wielding the pen with his own hand? One of our most accomplished novelists dictated some of his finest passages before getting up in the morning. A good shorthand writer is in many of these cases an invaluable aid. Of course this involves a certain pecuniary expenditure, but when people have so much to do their incomes are usually proportionately large.

This, then, concludes our account of the causation of disease, and we now proceed to the consideration of what we call "symptoms." This is a term which is in constant use, and one which hardly requires explanation. A simple example will serve to illustrate its meaning. A man gets an attack of rheumatic fever, and we say that his chief symptoms are high temperature, quick pulse, thirst, loss of appetite, profuse perspiration, and pain, swelling, and redness of the joints. These are, of course, parts of the disease, but we call them symptoms, because it is by their occurrence that we are enabled to recognise the nature of the disorder from which the patient is suffering. We sometimes speak of "premonitory" symptoms, by which we mean the earlier symptoms of a disease which indicate that the patient is ill, but are not sufficiently characteristic to point out the nature of the complaint. For instance, a child may be suddenly seized with shivering or vomiting, and on examination he may be found to be very feverish. Now these symptoms are premonitory of many diseases, and all we can say is that the child is "ailing for something," and that it is probably going to have scarlet-fever or measles, or some other acute illness.

Then, again, we talk of "subjective" and "objective" symptoms. A subjective symptom is one that the patient communicates to the doctor, whilst an objective symptom is one that the doctor can find out for himself. For instance, a patient says that he suffers from palpitation and pain in the left side, these are subjective symptoms, but if the doctor listens to the chest, and finds that the heart is beating irregularly, or that the sounds are not clear, these are objective symptoms. Doctors, as a rule, prefer forming an opinion as to the nature of an illness on objective symptoms rather than on subjective. In many hospitals, more particularly those

which are called the "special" hospitals, the patients are asked hardly any questions, but are examined straight off. For instance, a patient goes to a throat hospital, it is taken for granted he has a bad throat, and that organ is at once examined. In the same way, at a hospital for consumption the physician wastes no time in asking the patient if he has a cough, but at once proceeds to sound the chest. If there is nothing wrong with the heart or lungs, then comes the question, "What are you complaining of?" And so it is with skin diseases, the doctor looks at the rash, recognises its nature, perhaps asks one or two simple questions respecting its duration, and prescribes the appropriate remedy. In some instances the symptoms are purely subjective. A woman, for example, is suffering from a bad attack of neuralgia or tic; the agony may be intense, and she may be able to describe her symptoms most graphically, but there is nothing at all to be seen. Malingerers practically appreciate the difference between these two kinds of symptoms. A prisoner who shams ill with the view of getting off hard labour knows that if he says he has rheumatism, or lumbago, or sciatica, he is pretty safe, and that it is very difficult to prove that he has not, whilst if he were to pretend that he had a violent cough, an examination of his chest would at once demonstrate the absence of disease, and lead to his detection.

As a general rule, then, objective are much more valuable than subjective symptoms, but the importance of the latter may sometimes far exceed anything that the doctor can learn by direct observation. In the early stages of some serious diseases of the heart or brain nothing wrong can be detected by the most practised ear or eye, and yet the patient speaks of a deep unrest or sudden horror, which, although it has no objective sign, may be the herald of a sudden or lingering illness. In medicine, as in everything else, there are fashions, and the prevailing tendency of the medicine of to-day is to underrate the importance of subjective symptoms, and to pay but little attention to the account given by the sufferer himself.

For the detection of objective signs there are certain special modes of examination which are resorted to by the physician. In examining the chest, for instance, he sounds it, or, as he says, "percusses" it, that is, he strikes it lightly with the tips of his fingers, with the view of detecting any difference in the note on the two sides. Then he listens to it, or, as he says, "auscults" it, to see if the air enters freely and equally all over. He may listen to the chest by placing his ear on it, or he may use his stethoscope. Every physician carries one of these instruments—usually in his hat. They are generally made of some light wood, such as cedar, and, being hollow, serve to convey and intensify the sound.

The increased accuracy of late attained in the recognition of certain diseases has been greatly assisted by the use of special instruments. Without the microscope the existence of many forms of blood disease could not have been established, and to its aid is due the knowledge of the parasitic nature of ringworm and thrush. The detection of Bright's disease is materially aided by the information a microscopical examination of the urine conveys. The thermometer to the practical physician affords, as we shall presently see, information of the highest value, whether regard be had to the detection of disease or its treatment. The laryngoscope, an instrument

for examining the throat, enables us to appreciate changes in the organ of speech, which, without its aid, could not have been suspected, and to determine with certainty the presence of other diseases, which, without it, could only have been suspected. The ophthalmoscope, or instrument for examining the eyes, has afforded valuable information in the detection of disease not only of the organ to which it is more especially directed, but also of the brain. The weighing machine is of great importance in determining the progress, that is, the advance or otherwise of wasting diseases, and of the value of the treatment being pursued. At our hospitals it is customary to weigh the patient at certain stated intervals, say once a fortnight, and to record their weight on cards provided for that purpose. We need hardly point out the necessity in making observations on the weight, of always using the same instruments, and more especially of the patient always being weighed in the same clothes.

Wasting or emaciation is sometimes the first observable symptom of disease. It is early seen in the countenance, partly because it is uncovered, partly because a slight diminution of the fat under the skin of the face produces a striking alteration in the features. It occurs in complaints that are not commonly dangerous, as in indigestion, and in hypochondriasis, which is often connected with indigestion. When it does appear it marks the reality of the disease. This wasting happens also in many serious maladies, for example, in consumption and dropsy, although the dropsical enlargement sometimes masks it. It accompanies many fevers, and is reckoned an unfavourable symptom, for it shows that the body is not properly nourished.

There is another word frequently used in connection with the term symptoms which we cannot pass by without notice. We sometimes speak of a "pathognomonic" symptom, and by that we mean one that is characteristic of the disease. Thus the peculiar eruption is pathognomonic of small-pox, and chalk-stones are pathognomonic of gout.

There is considerable difference in the mode of onset of different diseases, some coming on quite suddenly, and others very gradually. A man may be on his legs at a public meeting, when he suddenly has a stroke, and goes down just as if he had been shot; or, on the other hand, a man's powers may fail him so gradually that it is impossible for him to say really when he first noticed anything wrong. Frequently the illness is "acute," not only coming on rapidly, but being severe in character and brief in duration. The great majority of cases are "chronic," the symptoms setting in gradually, not being very severe, and the progress being slow and protracted. A chronic disease may, however, be the sequel of an acute attack, and an acute attack is not unfrequently the cause of a fatal complication in chronic cases.

In many diseases, especially the acute diseases, the illness is divided into different stages. For instance, a person is brought in contact with a patient suffering from small-pox, but it is not till twelve days after that he feels ill, has shivering, and suffers from a pain in the back. This period is called the period of latency or incubation, and varies in duration in different diseases. Its existence is not limited to acute diseases, for we find that it is present in many nervous affections. For

example, a child has a severe fright, and a week or so after suffers from St. Vitus's dance or becomes epileptic. Here the disease is not dependent on the entrance of any poison into the body, as is probably the case in most of the fevers, but nevertheless there is a period of incubation. Then again, we often speak of the "stage of invasion" and "stage of decline" of a rash. We do not know that these terms have any particular value, but they are constantly employed, and are often convenient. Certain morbid conditions are often left behind after an illness, and these are usually spoken of as the "sequelæ"—for instance, the occurrence of Bright's disease after scarlet-fever is regarded as a sequela, and not as a part of the original disease, because it is not of constant occurrence. Then again, by "complications" we mean such conditions as are liable to arise during the progress of an illness, but do not usually form a part of its course. For instance, a man has acute rheumatism. Has he any complications? you ask. Yes, pericarditis, or inflammation of the sac in which the heart is contained.

When the doctor is called in to any case of illness, one of the first questions he is asked is, "Is it serious? Is there any danger?" In some cases he is enabled to say at once that humanly speaking there is no danger, whilst in others he is bound to admit that it is impossible for him to give a positive opinion. Our power of foretelling the termination of any particular attack of illness is small. Medicine is not an exact science, and life is too subtle for us to know or measure all its possible contingencies. We know that certain maladies rarely endanger life, whilst from others perfect recovery is the exception. We know that the mortality in certain diseases is very much higher than in others, but this information will not enable us to foretell positively the termination in any individual case. We may describe the probabilities of any given disease, and may even express them numerically, and use them as a basis for accepting or rejecting lives at insurance offices, but we are, after all, dealing only with doubts, and not with certainties. Our knowledge of the results of disease, as applied to masses of people, is marvellously accurate, but as applied to individuals it is woefully small. We know how many people will die of bronchitis, and how many of consumption next year, and we even know how many will be killed by being run over in the streets, and how many will commit suicide by throwing themselves in front of express trains, but if we are called in to two people of the same age on the same day, who are stricken down with typhoid fever, we cannot tell whether one, or both, or neither will die. We can fix the probable duration of certain diseases pretty accurately, but with regard to others our knowledge is infinitely small. We know approximately the duration of shingles, of small-pox, of typhoid and scarlet fevers, and also of such maladies as consumption and cancer of the stomach, but with regard to many chronic affections, such as rheumatism and sciatica, our knowledge is much less accurate, and of less practical utility. An acute disease may prove fatal, or it may terminate in recovery, or it may become chronic. Rheumatic fever affords a good example of an acute disease which sometimes becomes chronic. In certain cases the fever completely subsides in due course, but leaves the joints swollen and painful for weeks, or even months. Some acute diseases, such as scarlet fever and measles, never become chronic.

Diseases have been divided into two groups—preventible and non-preventible,

and it should not be forgotten that many diseases that we are powerless to cure might be readily and completely stamped out. A few years ago an attempt was made to estimate the undoubted preventible mortality from disease. A comparison was made between the death-rate of the healthiest registration districts of England and those the least healthy, and the diseases were then ascertained from which the excessive mortality arose. It was proved most conclusively that these diseases might be so reduced in frequency as to bring down the death-rate of the now unhealthy districts to the level of the healthy. First and foremost among preventible diseases is rickets, which, either directly or indirectly, is one of the most fatal maladies of infantile life. The causes of rickets are poorness of the mother's blood, errors in diet, and more especially overcrowding of the bed-rooms. Every doctor knows that not a single child ought ever to die from rickets or its consequences. If we could only provide the poor with light, airy, well-ventilated rooms, we could soon stamp out not only rickets, but many other diseases. The rich are directly interested in the welfare and sanitary condition of the poor, for the fever which carries off the millionaire in his palace has probably grown and gained strength in the wretched dens which, sad to say, are too often the only habitation of those who earn their daily bread by the sweat of the brow.

Then again, syphilis is a preventible disease, and it is indirectly the cause of many deaths. Many a case of so-called liver disease, or Bright's disease, or brain disease, is in reality dependent on a syphilitic taint contracted perhaps years and years before, in the days of youth and passion. Delirium tremens is a preventible disease, and even gout is in a large proportion of cases dependent on preventible conditions. Of course, the diseases which are due to the injurious influences consequent on the exercise of certain trades are to a certain extent preventible. Many diseases are caused by ignorance of sanitary laws and neglect of the most simple rules relating to food, air, clothing, light, and exercise. One constantly meets people accomplished and highly educated, who would be ashamed to be ignorant of classical and mathematical knowledge, but who do not know even enough to maintain their bodies in a healthy condition. This ignorance of sanitary laws is by no means confined to those who in other respects are uneducated. Over and over again, we find towns springing up under the fostering care of rich and influential proprietors, without any other mode of drainage than the collection of the filth of each house into its own cesspool, and with no other supply of water than that obtained from surface pumps.

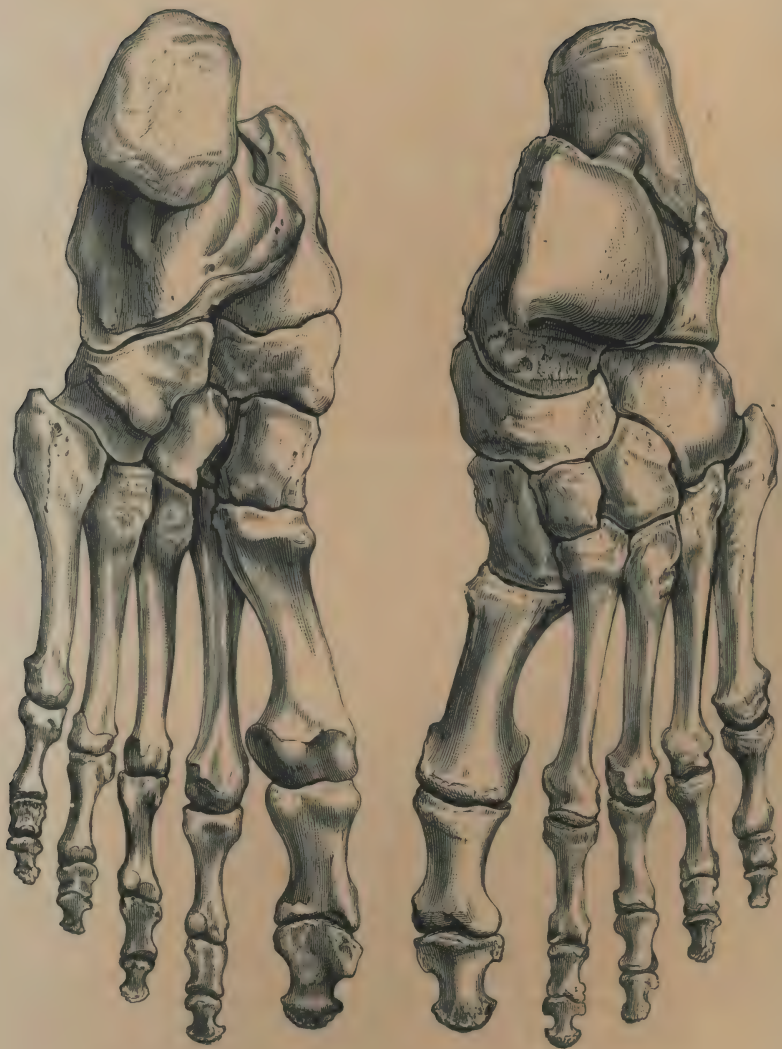
Now a word or two about treatment. Concerning medicinal treatment, it must be admitted that there is still in certain quarters considerable scepticism. Curiously enough, this want of faith is met with not so much in those who take medicine as in those who prescribe it. The greatest sceptics are the consulting physicians. Your family practitioner would laugh you to scorn if you were to say you did not believe in medicine—and serve you right, too. What, then, is the explanation of this scepticism among hospital physicians? Fortunately, it is not far to seek. You must remember that the majority of people do not care to consult a physician unless they have something serious the matter with them. If they have only some trivial affection they go to the general practitioner, and regard a consultation as a *dernier*

ressort. The result is that the bulk of the hospital physician's patients are what are technically called "bad cases," and, as from their very nature they are unlikely to improve under treatment, he gradually becomes sceptical as to the action of medicines. The general practitioner, on the other hand, gets all kinds of cases, trivial and severe, and is much more likely to be able to form a correct estimate of the value of his remedies. At the same time, we are happy to say this scepticism on the part of the London physicians is far from being universal. One of our most accomplished and successful physicians, a man at the head of the profession, recently made the following "confession of faith." He said: "Now, for myself, I desire to repudiate, absolutely, scepticism in regard of medicine. I believe as confidently in the power of physicians to treat disease successfully as I did when clinical clerk to one of the first practical physicians of my youth. Extended knowledge and accumulated experience have only increased my confidence in the remedial powers of our art." We should say that a man who disbelieved in the curative powers of medicine must be blind to the evidence of his own senses. The man who could not perceive the beneficial action of quinine in ague, or of mercury in syphilis, would not see a hole in a ladder. You sometimes hear a man say he "doesn't believe in medicine." He might as well say that he does not believe in bread-and-butter. There are, of course, many diseases that are still beyond the power of our art, but this number is decreasing day by day. Every year serves to introduce new remedies and fresh preparations of old ones, and the number of diseases amenable to treatment is steadily, but surely, increasing. "How wonderful," says the physician whom we have just quoted, "is the influence of bromide of potassium over diseases for the treatment of which we were but a few years ago almost impotent. A dull, heavy-looking lad suffered for seven years from epileptic attacks, which steadily increased from the first in severity and frequency, till many occurred in twenty-four hours. For a year he was treated by a physician on general principles with little benefit. The case was in all particulars most unpromising; yet from the time the boy took the first dose of bromide of potassium to the present, nearly three years, he has not had a single fit." This is by no means an unusual case. We have seen many like it, and so must every one who has paid the slightest attention to the action of drugs. But it illustrates well the power of a comparatively new remedy over a class of cases which only a few years ago were regarded by practical men as almost as much beyond the curative influence of drugs as is a case of cancer of the stomach.

Other illustrations of the strides made in treatment are afforded by the influence of cod-liver oil and the hypophosphites in consumption, of iron in anæmia, of digitalis in heart disease, of ipecacuanha in the cure of dysentery and some kinds of vomiting, of sulphide of calcium in boils and abscesses, and of electricity in many diseases of the nervous system. With reference to the power of our art to alleviate suffering, the difference between the medicine of to-day and that of five-and-twenty years ago is very great. No one who has suffered from a painful local affection can think of the immediate relief which followed the subcutaneous injection of a dose of morphia without feelings of overpowering gratitude. There is no one who has had to submit to the knife of the surgeon whose heart does not overflow with thankfulness to those who introduced anæsthetics. The electric telegraph, the

second greatest marvel of our time, was a thing which, in a rough way, scientific men had long thought possible, but to be cut for a stone and know nothing of the agony ; to have a leg removed, and smilingly ask, when the operation is over, " When are you going to begin ? " to have a nail torn away, and look on and laugh while that most painful operation is proceeding—these are marvels of which no one dreamed. No extravagance of fiction equals the living reality. The discovery of the value of the subcutaneous injection of morphia and other anodynes, of local anæsthesia by freezing with ice or ether spray, and of general anæsthesia by ether, chloroform, and laughing-gas, may rank amongst the proudest triumphs of this or any other age.





B

A

BONES OF LEFT FOOT.

A. Upper surface.

B. Lower surface.

THE FAMILY PHYSICIAN.

DISEASES OF CHILDREN.

Special Susceptibility of Children to Disease—Old-fashioned Methods of Treatment—Indications of Disease—Temperature—Diseases of Children, in Alphabetical Order, with their Symptoms and Treatment.

A REFERENCE to the returns of the Registrar-General (which invariably show in definite numbers what we all know by common experience, viz., the great mortality among children under five years of age) will be sufficient to prove that the early years of life constitute a time at which we are more vulnerable to disease than at any other period of our existence. The reason for this is twofold. Firstly, because there are several diseases which are of so infectious a nature that we are sure to contract them the first time that we come in contact with their contagion. Such are whooping-cough and measles, which are in no sense properly peculiar to childhood, but are rather to be considered as peculiar to and inseparable from life in crowded communities. Secondly, the proneness to disease in early life is by reason of the highly impressionable nature of the body at that period. Influences which have no effect upon us in adult life may during our early years be productive of very grave results indeed. All the vital processes are very active—the body is growing rapidly. Great results spring from trifling causes, and disease once started is liable to spread with very great rapidity. The processes of dentition, and especially of the first dentition, produce a general irritation and disturbance of the body, which causes very often a slight febrile reaction, during which the child is peculiarly susceptible to all evil influences.

Many of the diseases of childhood may be averted by a very small amount of care in the feeding and nursing of children, and it is not too much to say that the healthy child of a careful and discreet mother may pass through its infancy without ever taking a dose of medicine.

It used to be the fashion to dose children enormously, and even now one may occasionally see in old-fashioned houses a horrible instrument of torture called a physic spoon, with which unhappy children are loaded, as it were, with "charges" of the most nauseous compounds it is possible to imagine.

In the present day, however, we hope that wiser counsels prevail, and that unnecessary dosing has nearly died out. Every unnecessary dose of medicine given

to a child is a positive injury to it; and, in fact, the giving of drugs at all to children is a harmful proceeding, and is only to be countenanced when it is necessary to avert or counteract some greater evil. The necessity for giving drugs to children would arise much less often than is usually the case if the rules which we shall lay down for the general management of children were more scrupulously attended to.

The signs of disease in children are different from those we observe in grown-up persons; and when they cannot talk or definitely complain we have to learn to interpret those numerous indications of disease which are afforded by the child's general demeanour.

There is no more valuable indication of disease than the temperature of the body. We do not mean the apparent temperature as tested by the hand, but the actual temperature as measured with a thermometer. A child's pulse may be exceedingly quick, its face may look flushed, and its skin feel hot, and this may all be due to excitement, and after a night's rest the symptoms which caused alarm may have all disappeared. If, however, we find the temperature of the body raised, we know at least that the child requires careful watching until the temperature goes down again. It is not often possible to say at once to what the rise of temperature is due. It may be caused by indigestion, or a passing cold, or inflammation of the lungs, or bronchitis; or one of the children's fevers—as measles, scarlet fever, &c.—may be coming on; but as long as the temperature is raised we may expect anything. The great advantage of taking the temperature is that it gives us early information of disease, and we are often able to separate a child from its fellows before it has been able to infect the others. We should strongly advise the mothers of families and others who have the care of children to buy a "clinical thermometer," which may be got from any surgical instrument maker, and learn to take a temperature. The proper temperature of the body is 98·4 Fahrenheit, and anything over 99° Fahrenheit must be looked upon as fever. From 99° to 102° we should call slight fever; from 102° to 105°, severe fever; and anything over 105° Fahrenheit very severe fever. A temperature is best taken by placing the thermometer in the armpit or the mouth (if the child is old enough), and allowing it to remain for two or three minutes. Let us suppose that a child is "out of sorts." We take its temperature, and find it natural; we know that there is nothing serious the matter, and that it will probably be well in a few hours. If, however, we find the temperature raised, we must be prepared for the advent of something serious, and must not treat the case lightly. We have often seen the temperature raised by very slight things, such as an indigestible meal; and, in fact, nothing shows the impressionability of childhood so much as the manner in which the temperature rises at slight causes; but nevertheless we have often been able to get four-and-twenty hours ahead of a disease, as it were, because the thermometer has forewarned us of the impending storm.

Another important indication of disease in children is "fractiousness," or irritability of temper. Healthy children are generally good, and if we find a child become troublesome, we should always suspect some physical cause for its altered manner.

Healthy children are, when awake, lively. They smile, and crow, and throw their limbs about in one never-ending round of delight. When a child becomes

listless, and dull, and fretful, we know that it cannot be well, and that it demands attention.

Children when asleep should sleep quietly and tranquilly. If they become restless, and throw off their bed-clothes, and kick, and gnash the teeth, this may be taken as important evidence of impairment of health.

Loss of appetite is, with children, as with grown-up persons, a very common sign of disease.

A child's skin should be clean, clear, and rosy-coloured. If it is muddy-coloured, or blotchy, or if sore places form, or chafing occurs between the folds, or eruptions make their appearance round the mouth, round the bowels, or elsewhere, they may be taken as sure evidence that the child is seriously out of health.

Vomiting is a very important symptom of disease in young children, and, when persistent, indicates disease of the brain almost as often as it does disease of the stomach.

We will now proceed to discuss the more common diseases of childhood *seriatim*, and in order to facilitate reference we shall take them alphabetically.

Bed-wetting.—This is one of the most annoying of the troubles of childhood, and frequently occurs in children who are in all other respects in perfect health. It is not only very unhealthy, both for the child and for those who live with it, but since it either imposes a barrier to education, or causes the school-life of the child to be unhappy instead of pleasant, no effort should be spared to alleviate it. The treatment is very largely guided by common sense. The general health should be attended to, and examination be made for the presence of intestinal worms, and the opinion of a surgeon should be sought, to be sure that no serious disease of the bladder or urinary organs is present, such as stone in the bladder and gravel. The trouble usually comes on when the child is seven or eight years old, and it appears to be more common in boys than girls. Great care should be observed that no undue amount of liquid is taken late at night. Children ought never to eat suppers, and those with this weakness should be particularly careful in such matters. When they go to bed, some one should go with them to the bedroom to make sure that the calls of nature are properly attended to before falling asleep, and as the father or mother go to bed they should pay another visit to the child's room, wake it up, and insist on its passing water a second time. These measures alone will often ward off the trouble. The bed-clothes should not be too heavy or too warm, and the child must of course have a bed to itself. It is a good plan to place a "draw-sheet" under the middle of the child—that is, a sheet lined with waterproof, about a yard square. If this be done, and if the upper clothes be raised off the child by a cradle, should an accident occur, it will cause a minimum amount of trouble. The mattress (such children should sleep on mattresses and not on feather beds) should in every case be protected by a sheet of mackintosh placed between it and the under blanket. The woven wire mattress is much to be recommended for such cases. We have in *belladonna* a drug which has been of undoubted service in such cases. It should be given in the form of pills, because it is inadvisable to give more liquid to these children than is absolutely

necessary. The dose must be small to begin with, and then may be gradually and cautiously increased. A pill containing a quarter of a grain or less of the extract of belladonna (which should be purchased of some druggist of acknowledged reputation) should be administered every night at bedtime, and if this be found insufficient, the dose may at the end of a week be doubled. If the child complain of thirst, and the pupils of its eyes become dilated, the remedy must not be pushed too far; if delirium occur, the belladonna must be withheld. The general health of the child must be carefully looked to.

Chafing.—In situations where the folds of skin in young children are in close contact and overlap, as in the folds of the groin and the root of the neck, they rub together and chafe, and cause an irritable and inflamed state to be engendered. This condition is technically known as *intertrigo*. It is rarely that it arises from chafing pure and simple, but the condition is predisposed to by a want of attention to cleanliness; and the collection of perspiration and other secretions in the moist folds of skin is often largely answerable for the mischief. The *treatment* of chafing is simple. The parts must be kept scrupulously clean, and be washed twice a day with warm soap and water. After washing, they must be thoroughly dried with a soft towel or a silk handkerchief. The part must then be thoroughly dusted with an absorbent powder, such as starch, or oxide of zinc, or fuller's earth. The health of the patient must at the same time receive attention, as chafing is far more likely to occur in sickly than in healthy children.

Chicken Pox is a mild general disease, through which most children pass once. It is said to be very contagious, and the incubitive period is alleged to be a fortnight—the same, in fact, as small pox. As a rule, the sufferer is scarcely ill, but occasionally there is evidence of slight febrile disturbance, such as chilliness, quickness of pulse, loss of appetite, and some elevation of temperature. On the second or third day after the onset of febrile symptoms (supposing them to be noticeable), a few rose-coloured spots appear about the body, and these quickly become vesicles or little watery heads. They increase in number for two or three days, and we find the body covered with a variable quantity of these little watery bladders which may number as many as 150 in bad cases, and the child looks as if it had been exposed to a shower of scalding water. They come about equally on all parts of the body with a slight excess occasionally on the head. In extreme cases a succession of them may appear for eight or ten days. The individual vesicles last three or four days, and then begin to dry up, and as they dry they leave a little scab. They often itch badly, and the child often scratches itself—scratches off the scabs and produces sore places which may prove troublesome. This disease has to be distinguished from the far graver malady, which in some degree resembles it—viz., small pox. In small pox the premonitory symptoms are far more severe, and the patient appears to be extremely ill with headache, vomiting, and violent pain in the back (see *Small Pox*). The eruption in small pox appears first on the face, and, before it becomes pustular, there is a stage during which it feels like a hard lump or “shot” beneath the skin. This stage is absent as a rule in chicken pox. The eruption of small pox always

becomes pustular (that is, *mattery*), while in chicken pox it remains *vesicular* (that is, watery), except in a few very rare cases. The eruption of small pox is umbilicated, that is, it is "tucked in" in the centre like the navel or the top of a cottage loaf. This is, however, rarely the case in chicken pox.

Chicken pox hardly requires treatment of any kind, and happily the children get well in spite of anything which may or may not be done for them. Keep the child from catching cold, and take care that it does not pick the scabs, or troublesome ulcerations may result. The vesicles should be protected from irritation of all kinds, and if they occur on parts of the body which are liable to be rubbed by the dress, or to come in contact with neighbouring folds of skin, they should be protected by a piece of soft rag which has been lightly covered with a thin layer of cold cream.

Although the disease itself is trivial, it often leaves the child in a very weak condition, and we sometimes find that children who have been perfectly well previous to their attack of chicken pox fall off in health very much afterwards, and lose flesh, and become generally sickly. If there is any family tendency to tubercular disease, this is a period at which they are very liable to contract it. The vesicles occasionally leave scars about the body.

Chilblains are a very common source of trouble to children. They consist of red and swollen patches, the result of mild inflammatory action, and they are caused by exposure of the part to cold or damp. They are most liable to occur at the extremities, where the circulation is feeble, and are most common on the toes and fingers. They may occur also on the lobes of the ears, the tip of the nose, and elsewhere. Children who suffer from chilblains are often weak and sickly, of a sluggish and lymphatic habit, and indisposed for active pursuits. The tendency to chilblains is increased by any weakening and debilitating disease, or by bad feeding, or other causes which tend to depress the health. The mildest kind of chilblain consists merely of slight redness and swelling, accompanied by intolerable itching. In worse forms, the skin gets bluish over the swelling, and this is not unfrequently followed by the excoriation of the skin, and the "breaking" of the chilblain. Broken chilblains are far more serious than simple chilblains, and are often accompanied by a large amount of discharge, are liable to become exceedingly chronic in their course, and not unfrequently they cripple the patient for many months at a time.

The *treatment* of chilblains is both general and local. The health must be most carefully attended to; tonics may be freely administered—cod liver oil, iron, and quinine are all of use—combined with a liberal diet and a fair amount of stimulant. The parts which are the seat of chilblains must be kept thoroughly warm, and the child must be encouraged to take as much exercise as possible. The stockings must be woollen, and the boots or gloves warm and roomy, so as not to compress the hands or feet. The parts may be further stimulated by rubbing, and it is often advisable to use some mild stimulating liniment, such as soap liniment or ammonia liniment. Spirit of any kind, such as brandy or gin, may be employed for rubbing the part. When the chilblains become broken, the parts must be kept at rest, and it may be necessary to apply poultices or warm-water dressing for a time, until the

discharge has ceased. The best dressing for them after this period is any mild stimulating ointment spread upon soft rag. Resin ointment, or ointment of the oxide of zinc, are both very useful.

Child Crowing.—(See *False Croup*.)

Children's Paralysis.—This disease is also called infantile or essential paralysis. The name "essential" is given because it often happens that no cause for it is detectable. It occurs generally during the period of teething, and cases are not so common after two years of age. The child may have been quite well previous to the attack, or, it may be, just recovering from measles or some other disease of childhood, or perhaps it has had a febrile attack accompanied by pain in the joints or limbs, which is spoken of as rheumatism. Very often the onset is marked by slight feverishness accompanied by indigestion. During the attack the mother or nurse notices that the child is unable to move some of its limbs. Perhaps one arm or one leg hangs helplessly, or both legs and one arm may be affected, and the child may be reduced to a condition of almost complete helplessness. This extreme amount of paralysis generally passes off in a few days, but the limb never completely recovers, and there is always a residuum of paralysis left: this varies in amount. It may be that the whole of one limb is paralysed, or it may be that certain muscles only are affected. The child may be able to use the hand fairly well, but is unable to raise the shoulder; or the leg may be useful to some extent, but there is a certain dragging of the toes, or swinging inwards or outwards of the foot, or a difficulty in bending the knee, or a clumsiness in the movement about the hip-joint. If this residual paralysis does not receive very prompt and very careful attention, it will remain permanent, and if the paralysis be not cured, we are apt to get a shortening and contraction of the non-paralysed muscles, and an unequal action of the muscles working round a joint, and as a consequence a permanent deformity of the joint. *This form of paralysis is the great cause of club feet and similar deformities*, and most of the children whom one sees walking about in irons, with their feet enclosed in various kinds of surgical boots, have suffered from infantile paralysis.

The *treatment* of this paralysis must be prosecuted with the greatest perseverance, and with unremitting attention; and although much patience is demanded of the friends and the medical man, there are few complaints in which patience is so well rewarded.

In the first place, the general health of the child must be kept up, and it must be carefully dieted, and should be treated with cod liver oil and steel wine, or other tonic medicine.

Next, as to the treatment of the affected limb. If a limb is completely paralysed, it is not used, and it wastes; or if partially paralysed, it may be of so little use that practically the child does not use the limb at all, and consequently it wastes. If these cases have been neglected, we find that the limb which is the seat of the paralysis is often of less girth, and very often shorter than its fellow. It is blue, and invariably cold. The most essential thing is to keep up the temperature of the limb, which should be kept constantly enveloped in a stocking or a sleeve made of flannel, and quilted with cotton wool. A child should have a change of these—

one for night and one for day, and they should be always thoroughly aired and warmed before they are put on. When the child is in bed, it should have the limb kept warm by one or more india-rubber hot-water bottles laid alongside of it. In the next place, the limb should be kept thoroughly well rubbed; and night and morning the whole limb, and especially the affected muscles, should be systematically shampooed.

The child should be encouraged to use the limb as much as possible, and, if it can manage to do so, it should be made to run about, but, if this be not possible, passive movements must be made for it, so as to avoid the risk of joints becoming distorted and tendons stiffened.

A valuable adjunct to the treatment of these cases is undoubtedly electricity, but to be of any service it must be applied with care and great discrimination, and, above all, with very great patience. The paralysed muscles require to be sedulously worked at often for many months before much result is obtained, but we believe that electricity is the sheet anchor in this disease, and, in fact, the only remedy which is likely to be of much service for the cure of what we termed the residual paralysis. The electrical treatment must not be delayed too long, as is often the case. "A stitch in time saves nine," and the applicability of this proverb to disease is very general. To prevent contraction of muscles, and the consequent deformities, various iron supports, and shoes, and similar appliances have been invented. These are of undoubted service when used with judgment, and with the advice of a reliable surgeon. Their drawback is that they hamper the free movement of the child, and prevent its proper muscular development, and they are rarely justifiable except in cases where locomotion is scarcely possible without them. We would strongly caution the reader against a class of instrument makers who to the trade of a blacksmith endeavour to add the profession of a surgeon. They are ignorant of anatomy and physiology, are incapable of taking other than a mechanical view of the case, are naturally anxious to sell their often costly wares, and by looking at patients solely from their point of view, often condemn them to be crippled for life.

Chorea.—(See *St. Vitus's Dance.*)

Constipation in Children.—When a child is constipated, its nurse gives it a dose of purgative medicine as a matter of course, and if this does not have the desired effect, the remedy is repeated, and in the very great majority of cases no harm comes from this haphazard method of treating a common symptom. It is well, however, that people should bear in mind that constipation may arise from causes which are not only unremovable by purgative drugs, but which might be greatly aggravated by their administration. Take *rupture*, for instance, a complaint which is very common among children. A piece of the bowel comes through a hole in the internal coats of the belly, and cannot get back again—becomes strangulated, as the term is. Now the administration of purgatives in such a case could do nothing but harm; and an examination should always be made, in cases of constipation, of the patient's groins, to see whether or no a rupture exist, and if such be found, a surgeon must be called in without delay.

Again, the bowels may get twisted inside the belly, and then we get a condition

very like a rupture. In all cases of rupture or internal obstruction nothing is passed, not even wind, by the bowels. The child complains of great pain, and after a time vomiting occurs, which becomes very offensive. The combination of constipation, pain in the stomach, and vomiting, should always make one chary in giving purgatives, and it is wise in all such cases to lose no time in calling in the help of an expert.

Children are liable to suffer from a trouble in the bowels which is almost peculiar to childhood. This is the *intus-susception* of the bowel, as it is called, or the slipping of one part of the bowel into the part below, just as we may draw back the finger of a glove within itself. When this accident occurs, there is usually sudden and intense pain at the moment of its occurrence. The child is absolutely constipated, and there are generally eructations of flatus (belching of wind) and vomiting. So far these are the signs common to all cases of complete obstruction of the bowel. At the end of two or three days we are confronted with a very characteristic symptom, viz., the passing of blood and mucus by the bowel. It is not a common thing for children to pass blood from the bowel, and if they do so in any quantity, we should always think of intus-susception as a possible cause of it. The part of the bowel which gets ensheathed in the part below passes gradually onwards, so that it may occasionally be felt, or even seen, at the lower opening of the bowel. Sometimes the mass of ensheathed bowel can be felt like a sausage through the wall of the belly. *Peritonitis*, or general inflammation of the bowels, is a common consequence of this condition, and is the usual cause of death in these cases. Intus-susception is not, of course, to be treated by giving purgatives, which would only increase the trouble. Our aim must rather be to restrain the action of the bowels by giving opiates. The condition has been "reduced" by injecting air into the bowels, and distending them until the ensheathed portion slips out of the part below. If it can be satisfactorily made out that the child is suffering from this condition (and attention to the symptoms we have mentioned will generally enable a physician or surgeon to come to a right conclusion), it may be advisable to open the child's belly by a slight incision, and hunt for the ensheathed bowel, and pull it out with the fingers. Many cases in which this has been successfully accomplished have been reported of late. If this be not done, the child has but a small chance of recovery, although a few cases have been reported in which a spontaneous cure took place. It is certain, however, that if relief be not afforded, either by natural or artificial means, death will result.

As to the treatment of ordinary constipation, we would impress upon the reader that it is never justifiable to give a dose of medicine to a child if this can be avoided. The practice of indiscriminate dosing cannot be too strongly condemned, for it is certain that it has acted to the prejudice of very many children. A child should be taught as early as possible that the bowels ought to act at regular times, and it should never be allowed to neglect this important natural function. If a child becomes constipated, it is often sufficient to attend to its diet, and give a little fresh vegetable, fresh fruit, or stewed fruit, to excite a slight laxative action. If this be not sufficient, it is a good plan to give an injection of tepid water into the bowel occasionally: this, however, is a measure which should not be too often repeated. If drugs become necessary, the phosphate or sulphate of soda dissolved in hot broth or milk is very effectual. Rhubarb and soda powders, or a dose of Gregory's powder,

are time-honoured remedies, and their value is too well known to need any encomiums from us. A tea-spoonful of castor-oil is a good simple remedy. It now and then happens that children have unusually sluggish bowels, which refuse to respond to any of the ordinary purgatives. A systematic friction of the abdomen in a circular direction from right to left (following the direction of the large intestine) will often suffice to give tone to the bowel, and restore a healthy action. It is a good plan to use a little cod liver oil as a lubricating medium, and to rub the abdomen the last thing at night. A tea-spoonful of ordinary salad oil the first thing in the morning also helps to encourage a proper action. We have heard of cases in which this treatment succeeded after everything else had failed. It has the merit of simplicity, and is not likely to do any harm. On this ground alone it is a method of treatment to be strongly recommended. If stronger remedies become necessary, or if a child is more than two days without having its bowels relieved, in spite of medicine, a doctor should be sent for.

Convulsions are very common in children, and few mothers of large families have been without some experience of fits. It is not too much to say that *no healthy child has fits*; but on the other hand, a very slight cause indeed is sufficient to bring on an attack of convulsions in young children. Fits seem, it is said, to take the place of delirium in older persons, and a very eminent authority on children's diseases has remarked that some children are convulsed as easily as some people dream. Dreaming, however, is not always a healthy condition even in grown-up people; and if dreaming in an adult sometimes calls for medical treatment, how much more is a young child who is subject to fits in need of careful supervision!

When a child is taken in a fit it becomes insensible, and often gives a little cry at the moment of seizure. The face is pale or dusky, and there intervene twitchings of the body and limbs. The face is "drawn" or distorted by contraction of the facial muscles; there is squinting of the eyes, and the mouth is drawn to one side, while frothy fluid escapes from the mouth. The legs and arms are the seat of twitchings, and the thumbs are tightly bent over the palms of the hands. When a child is taken with fits, those about it should endeavour to take notice of certain facts which may assist the medical man on his arrival to come to a proper conclusion as to the cause of the trouble. Does it cry out and bite its tongue? How do the fits begin—in the arm, or hand, or leg, or how? How often do the fits recur? Are the twitchings of the body limited in extent, and do they affect one side more than the other? As the medical man is not generally on the spot to observe all these points for himself, he is obliged to trust to the accounts given him by others.

The individual fits do not last long, but they may succeed each other with such rapidity that it is not possible to say where one fit ends and the next begins. A child does not often die in a fit, but this accident does occasionally happen. When death takes place in a fit, it is brought about by suffocation. Children occasionally also die of exhaustion if the fits have been prolonged.

When a child has fits, the fact may be taken to indicate with certainty one or both of two things—(1) That the child is of a weak constitution, and (2) that there is some source of irritation in the child's body which is setting up the convulsions. As to

the constitutional condition of the child, this, in the vast majority of cases, is found to be rickety. Search must accordingly be made for every indication of the rickety constitution. (See *Rickets*.) Although rickets is the condition of all others in which convulsions are likely to occur, we meet with them also in other weakly states of the constitution, as the tubercular or scrofulous. Sometimes convulsions indicate a family tendency to nervous diseases, and it may be found that other members of the family have suffered in the same way, or are liable to neuralgia, or hysteria, or epilepsy, or some other form of nervous disturbance. If this be the case, and if the fits are repeated, they may, perhaps, be taken to indicate that the child is going to become subject to epilepsy.

Having examined into the constitutional condition of the child, we next look for any local source of irritation which may be the cause of its trouble. Fits are most common during the trying period of the first dentition, and some difficulty in cutting the teeth will in a great number of cases account for the symptoms. Do not, however, rush to the conclusion that the gums want lancing. Doubtless this is very often necessary, but, on the other hand, we have no doubt that gums have very frequently been lanced when there was not the least occasion for it. Be sure, therefore, before lancing the gums that they are swollen and tender. This caution is particularly necessary, because children who are liable to fits are very sensitive to any loss of blood, however slight, and even the slight bleeding which follows the lancing of the gums is a matter to be avoided.

If the local irritation be not found in the gums, we must look elsewhere, and, perhaps, the next most common cause of fits is the irritation set up by intestinal worms. The motions must be carefully examined for worms, and if they are detected, the proper remedies be administered. (See article on *Worms*.) Any irritation of the intestinal canal is particularly liable to set up fits, and the diet must be strictly inquired into. We well remember the deep impression made upon us many years ago by seeing a healthy child six years old suddenly seized with very violent convulsions. As no cause could be discovered for the attack, except the fact that the child had been indulging in a quantity of "pastry," an emetic was at once given, and the child vomited up, among much food of a not very digestible character, a piece of slate-pencil about half an inch long. This was the cause of the mischief, and the child being relieved of it, the fits ceased, and did not return.

Fits are occasionally the first warning of the onset of serious diseases, and the child should accordingly be stripped, so that it may undergo a thorough examination. The signs of scarlet fever and measles should be sought as well as other fevers. The lungs also should be carefully examined with a stethoscope, so that diseases of the lungs, such as inflammation or pleurisy, may be detected and treated without delay.

Again, convulsions may indicate disease of the brain, but happily this is not often the case. As a rough test, we may examine the fontanel, and if this is depressed, the convulsions are certainly not due to brain disease. If it is prominent, however, one must not conclude that the fits are caused by cerebral disturbance.

Disease of the kidneys is a common cause of convulsions, even in young children, and when convulsions occur during convalescence from scarlet fever, they always cause one to suspect that the kidneys have suffered. A careful examination of the

urine will suffice to determine this question. Chemical and microscopical observations will not fail to give evidence, should any disease be present.

The *treatment* of fits is generally very simple. During the fit we must loosen the child's dress, and see that it has a plentiful supply of air. We must also take care that while the convulsions are in progress it takes no harm, and it is advisable to stand by it, and exercise some slight control over the movements of its limbs. If the cause can be detected, every effort must be used to remove it. The bowels must be emptied by a purgative, or the stomach relieved by an emetic, or, if there be real necessity, the gums may be lanced. A hot bath is often of great service, and the application of mustard plasters to the calves of the legs is a method of treatment of such respectable antiquity that we cannot but believe in its utility.

It is important not to employ too strong measures. Fits are no indication of inflammatory action, and it is not necessary to apply leeches, nor to use strong purgatives, nor apply blisters. These weaken the child, and increase its danger.

Fits prove fatal by the exhaustion that they cause, and it is therefore highly necessary to keep up the child's strength. In the intervals between the fits it must have some nourishing food—milk, beef tea, or meat jelly; and if the fits are of long continuance, we may add a small quantity of wine, or even brandy. If it is found impossible to feed the child by the mouth, owing to the close setting of the jaws, it may be necessary to give nutritive injections by the bowels, but such strong measures are only admissible by and with the advice of a medical man.

Next to feeding, the most important indication in treatment is to calm the excitability of the nervous system, and if possible get the child to sleep. The bromide of potassium or ammonium, in doses of five grains every three or four hours, may be given either dissolved in water or in food, and this will generally be found to have the desired effect of producing calmness, if not sleep. If the convulsions are very frequent indeed, the medical man may think it necessary to administer a little chloroform, but we need hardly say that the friends will not think of dealing with this potent medicine on their own authority. The greatest caution, too, is necessary in dealing with the stronger narcotic medicines, as opium or chloral.

Consumption.—(See *Tuberculosis*.)

Cow Pox.—(See *Vaccination*, p. 63.)

Croup.—This disease, which is one of the most terrible and fatal to which children are liable, is characterised by inflammation of the upper part of the windpipe (larynx), accompanied by the growth of membrane. The membrane which grows in the windpipe makes it narrower, and consequently the ingress and egress of air from the lungs is very greatly impeded. In addition to this mechanical obstruction, however, there is superadded a spasm, caused by the irritation of the inflammatory action, for during the continuance of croup there is always more or less difficulty of breathing, and this permanent difficulty, aggravated by spasm, renders respiration at times an absolute impossibility, and if this impossibility lasts for more than a few minutes, the child is necessarily killed by suffocation. The

windpipe of children is narrower than that of adults, and hence it is that any tendency towards inflammation of it is so much to be dreaded. It has been thought by many that croup is the same disease as *diphtheria*—the only difference between them being, that in croup the larynx alone is affected by the false membrane, while in diphtheria the membrane grows on other parts as well—as the soft palate and uvula, and also on the “swallow,” or pharynx. If a child has croup—*i.e.*, if the membranous inflammation is limited to the larynx—it is not usual for the disease to spread to other members of the family; but in diphtheria the case is far otherwise, and nothing is more common than for it to attack the members of a family by turn. This is the chief difference between the two, and although this difference is an important one, and one which alone would be sufficient to place them in different categories, still, the points of resemblance are so many that for all practical purposes croup may be considered as diphtheria of the windpipe. Croup seems to be favoured by hereditary tendencies, and it is one of those diseases which are apt to fall with undue severity on certain families through many generations. Exposure to cold, too, seems to be a great exciting cause, and the spring and winter are the seasons in which the disease is most prevalent. Unhealthy domestic arrangements, such as imperfect drainage, exposure to emanations from sewers, and low-lying situations, seem also in some degree to predispose towards croup. It must be said, however, that it is not a very common disease, and the experience even of medical men of large practice among children does not include very many cases of this fatal malady.

The child usually goes to bed tolerably well, or perhaps it has complained or its friends have noticed that it has a slight cold, or speaks a little hoarsely. There is also some heat of skin, and perhaps a little thirst and headache. Having gone to bed with no symptom that could cause alarm, it may wake in the night with all the torments of fully-developed croup. The windpipe may be tender to the touch, but this is not usually the case. The child struggles for breath, and clutches at its throat in an agony of terror. There is a loud, clanging, peculiar cough, and the noise of the breath passing and re-passing through the obstructed air-tube is high-pitched and hissing. The expression is anxious, the eyes suffused, the face purple, the whole body bathed in perspiration, and the voice whispering and hoarse. The child seems on the very point of suffocation, when the paroxysm subsides, and it becomes quiet again and tolerably comfortable. It must be borne in mind that these paroxysmal increases of suffocation are due to spasmodic narrowing of the windpipe excited by the inflammation. The remission of the symptoms is due to the subsidence of the spasm, and not to the removal of the membrane, which is the *fons et origo* of the trouble. These paroxysms last variable times—from half a minute to half an hour. The liability to their occurrence is much greater during the night than during the day; and the parents, who see their child lying tranquilly throughout the day, or without any great evidence of suffering, are apt to be buoyed up with the delusive hope that the disease is subsiding; but when with the return of night the spasm returns, and returns probably with increased severity, this hopefulness is cruelly dissipated. The urgent difficulty of breathing is usually attributable to the spasm, but occasionally the growth of membrane may be so great as absolutely to obstruct the opening of the windpipe. The amount of obstruction present is judged of

by the degree to which the chest sinks in during the attempts to draw the breath. In health, the chest walls bulge out during the act of inspiration; but if the entrance to the windpipe (the glottis) be obstructed, they fall in, and the degree to which they do so is a measure of the amount of obstruction. The sinking in of the chest is always considerable during the attacks of spasm, but in the intermediate periods it may not be noticeable, and the inference we draw is that the amount of membrane present is not great; but if in the intervals between the spasms the chest walls recede, we conclude that the obstruction is considerable, and our apprehensions are consequently serious. It is not usually feasible to see the membrane in the throat. This is only possible by means of the laryngoscope, an optical instrument for illuminating and reflecting an image of the windpipe; but it is not advisable to use it on children suffering from croup, lest the excitement may bring on a spasm. On simply looking into the throat, we may see that it is red and perhaps swollen, and if we can catch a sight of the tip of the epiglottis—the lid covering the top of the windpipe—we may see that it too is in the same condition. If any false membrane is seen on the palate or the back of the mouth, the case would be spoken of as one of diphtheria, and not croup. Occasionally children cough up great pieces of the membrane, which resemble tough pieces of moistened wash-leather. This is usually followed by relief; but the membrane often grows again, and in a few hours the child's condition is as bad as ever. The disease, if it terminates fatally, usually does so by the end of two or four days; but if the child survive, and live into the second week, the chance of its recovery is greater. Occasionally we may find the glands along the side of the neck enlarged.

The *complications* of croup are all referable to the lungs. It is very usual to have some *bronchitis*, and if this bronchitis be caused by the growing downwards into the lung of the false membrane, it is necessarily of a very serious kind, and very often results in collapse of great portions of the lung, *i.e.*, the lung emptying of air and not being able to get filled again. *Pneumonia*, or inflammation of the lung itself, is a very serious complication, and one which is very generally fatal.

It is not easy to foretell the result of an attack of croup, but the disease when once established is but too often fatal. Very young children recover less often than older ones, so that the older the child the better is his chance of recovery. It is said that croup is especially fatal when it follows measles. The presence of any of the complications, especially pneumonia, is very serious. It should be borne in mind that children occasionally die quite suddenly in croup, apparently from the shock caused by sudden closure of the windpipe. A second attack is said to be less likely to be fatal than a first; but it is somewhat doubtful if true croup ever recurs, and whether these so-called second attacks are not merely attacks of ordinary (not membranous) inflammation of the larynx to which spasm is superadded.

Croup has to be *distinguished* from the above-mentioned simple inflammation of the larynx, with which it is not unfrequently confounded. The disease of all others, however, which is most often mistaken for croup, is the so-called *false croup*, or *laryngismus stridulus*, which is quite a different disease, and which consists of spasm of the windpipe alone, without any inflammation of any kind. The noises in the throat in laryngismus very closely resemble those of true croup, but the

paroxysms are of less duration, and it is generally accompanied by peculiar contractions of the fingers and toes, which are not observed in true croup. Laryngismus is almost limited to those of rickety constitution, while true croup attacks constitutions of all kinds, and respects none.

The *treatment* of croup must be rational, and we must be careful not to do too much and so weaken the child who requires all its strength to battle with its disease. It used formerly to be the fashion to apply leeches to the neck over the windpipe, and to dose the sufferer pretty freely with calomel and tartar emetic, or antimonial wine; but this is seldom considered necessary nowadays, and any attempt to cut short the disease by strong measures is, we think, to be deprecated. It is very useful to begin with an emetic, and a tea-spoonful of ipecacuanha wine may be administered with advantage. The act of violent coughing which usually accompanies vomiting may have the effect of dislodging some of the membrane in the larynx. The parts should be kept warm and moist. Poultices may be applied to the throat, and the child may with advantage inhale the steam of hot water. The bed should be provided with curtains, and the steam from a kettle provided with a long tube from the spout may be conducted between them. The bed should be of a large size, and the curtains not too thick, so as to avoid overheating the patient, and producing weakness. Some physicians are accustomed to repeat the emetic, and always keep one at the bedside to administer when a dangerous paroxysm supervenes. It is necessary to give a sufficiency of the most nourishing food. The strongest soups, milk and wine, or brandy and water, may be given with no stinting hand, but great care must be taken not to overload the stomach, nor to give anything which shall make too great a demand on the digestive power.

If the child is in urgent danger of dying of suffocation, it is necessary to open the windpipe by the operation of *tracheotomy*. This is always a very serious proceeding, but serious as it is there should be no hesitation in consenting to its performance, for it assuredly gives the child a chance of life. It must be remembered that the windpipe of the child is blocked with a membranous exudation which it has failed to remove by the act of coughing; that it is not only impossible but inadvisable even to attempt to remove the membrane through the mouth by inserting forceps into the windpipe; but it is certain that if some plan be not devised for getting air past the obstruction into the lungs, death must inevitably result. The operation of tracheotomy consists in making a small cut into the windpipe below the obstruction, and inserting a tube through which the child is enabled to draw air into its lungs. The operation is one which to the uninitiated seems terrible, and during its performance the child had better be left entirely to the care of the medical attendants and nurse, who are accustomed to perform and witness operations of all kinds. In many cases it is quite safe to give a little chloroform to lessen the sufferings, but even if this be not thought advisable, the friends will find some consolation in the fact that the sensibility of the little patient has been so deadened by the suffocative process to which it has been subjected that it will feel but little, and being quite unconscious of what is going to be done to it, it is saved all the terror of apprehension which so increases the sufferings of adult patients. If the operation be successful, the relief afforded by it is one of the most gratifying

testimonies to the value of the surgical art which it is possible to witness. The child, who a few moments previously had been struggling for breath in an agony of terror, with a face purple from suffocation, suddenly finds that air can be drawn without difficulty into its lungs. The agony vanishes, the natural complexion returns, the child is able probably to take nourishment, and after some expressions of satisfaction it commonly falls into the caresses of "Nature's soft nurse."

Unhappily, the relief afforded by tracheotomy does not always secure the recovery of the child. There are still rocks ahead of which the friends should be well aware. The most common cause of death after tracheotomy is bronchitis or inflammation of the lungs, and the best method of guarding against this is to exercise great care that the air of the room in which the child lives is kept properly warm and moist. Ordinarily, the air which we breathe is warmed by passing through the hot cavities of the mouth or nose, which is not the case when the air is admitted to the lungs through a tube in the throat, and it often happens that bronchitis is set up or kept going by the irritation of cold air striking on the lungs.

Sometimes the child dies of exhaustion after tracheotomy. This is often the case when the operation has been too long delayed, which is a common result of the reluctance of the friends to give the necessary permission for its performance. The child has been so weakened by disease that its power of recovery is too slight to allow of its receiving any advantage from the operation; but even in such cases the sufferings are very much lessened, and the friends are spared the spectacle of a helpless child dying in the greatest agony. If tracheotomy has been performed, great care must be taken that while the child is wearing the tube in its throat it be kept scrupulously clean. The tube should be washed or changed every day, and the edges of the wound should be carefully cleansed of all discharge which may accumulate round them. If the operation be successful, it will be found that as recovery advances the obstruction in the windpipe diminishes; and if the patient be taught to close the orifice of the tube with the finger, or if the tube be closed for it, it may be able to cough up the portions of false membrane as they loosen and separate. When the child is able to breathe when the orifice of the tube is stopped, *i.e.*, when the child is able to draw air through the top of the windpipe and past the tube, the tube may be removed, and in a very few days the opening which was made for its insertion will heal and close.

During convalescence from croup, great care must be taken that the child is not exposed to cold, for the exposure of the scarcely-healed windpipe to the cold air may bring about spasm, and perhaps a return of the trouble.

During an attack of croup, the child should be kept separated from its fellows, so that no risk of contagion may be run; and it should not be allowed to mix again with its companions till every croupy symptom has disappeared. Sea air is of great service in restoring the strength after croup, as after other exhausting diseases, but our south coast with its moist balmy breezes should be selected in preference to the more cold and bracing climate of the east.

False Croup is of two kinds. Many children, especially between the ages of about four and twelve, when they catch cold are liable to suffer in their throats.

The cold, instead of settling in the nose or the head, "flies to the throat," as it is termed, and a trifling catarrh, *i.e.*, the slightest possible inflammation, is liable to affect the upper part of the windpipe. To this symptom not unfrequently is super-added spasm of the glottis (the opening of the windpipe), and the child wakes in the night with a loud crowing inspiration and also with a difficulty of breathing. This crowing sound as a rule subsides after a little time, and the sound of the respiration, although it may be slightly loud and hissing, has not the clanging crow which only supervenes during the attacks of spasm. This cold in the windpipe lasts about as long as a cold in the nose—a variable period from forty-eight hours to a week—and then subsides, and with it subside all the alarming croupy symptoms. This condition of things is very liable to recur, and when we hear of a child being liable to croup, we know that this mild catarrhal form is meant, and not the severe kind, which is characterised by the growth of false membrane, and which (if the child escape unscathed from its attack) we believe never returns. The *treatment* of catarrhal false croup is simple. The state of the bowels should be attended to, and, if necessary, a mild purgative should be given. A powder composed of rhubarb and carbonate of soda, to which a very small quantity of grey powder is added, will be found of service. To the outside of the throat a mustard plaster, or even a blister, should be applied, and the child should be made to inhale the steam of hot water either from a common jug or from one of the patent inhalers which form part of the stock-in-trade of every druggist. Many parents whose children are liable to this form of croup are accustomed to carry always with them a bottle of emetic (generally ipecacuanha wine), which they administer directly the familiar symptoms make their appearance. This does good very often by emptying the stomach; and since the determining cause of these attacks is frequently some error in digestion, the emetic is often sufficient of itself to effect a cure.

Spasmodic False Croup.—Child crowing, or *Laryngismus stridulus*, as it is technically called, is a totally different disease, and although resembling true croup and catarrhal false croup in its prominent symptom, it is on no account to be confounded with either. It occurs generally during infancy, while the child is cutting its first teeth. The children who suffer are of delicate constitution, never robust, and the constitution which seems most liable to this disease is the rickety (see *Rickets*). The period of first dentition is always a time during which the nervous system manifests an undue activity, and while some children suffer from attacks of general convulsions (see *Convulsions*), others show a tendency more to a convulsion or spasm of the windpipe. There is generally some irritation present which is recognisable as the cause of the spasm. This may be found in the stomach in the form of indigestible or improper food, or in the intestines in the form of worms, and often, no doubt, the irritation of teething is sufficient to produce it. These patients are generally backward with their teeth, but one must not on that account rush to the conclusion that the backwardness or difficulty of cutting the teeth is the cause of the spasm, but we must remember that the spasm of the glottis or windpipe and the delayed dentition are generally dependent on the same cause, *viz.*, the rickety constitution. These children have often the big head of rickets, and the trouble

may be supposed to be due to disease of the brain, but such is very rarely the case.

The *symptoms* of laryngismus stridulus are—a sudden suspension of respiration. The child wakes suddenly from its sleep, starts up and struggles for breath, then often becomes unconscious, and lastly, as the spasm of the windpipe relaxes, it draws in its breath with a loud crowing noise, which is highly characteristic. The suspension of respiration may endure so long as to cause the child's face to become pale and livid, but directly the breath has been drawn, this symptom disappears, and the child becomes well again. The attacks are generally renewed again and again at uncertain intervals. During the attacks there are usually observable curious contractions of the fingers and toes which are technically known as the *carpo-pedal contractions*, and which are almost absolutely characteristic of this disease. The toes are bent down and are rigid, and the thumbs are tightly bent across the hands. The disease may be looked upon as indicative of an impaired constitutional state rather than as dangerous in itself, but it must also be borne in mind that children do occasionally, though happily very rarely, die during a spasm. This is an accident which, in point of fact, is liable to occur whenever the upper part of the windpipe is diseased, and especially when the patient is of tender years. Recovery, however, is the rule, and death is the exception.

This disease has to be *distinguished* from the catarrhal false croup and true croup, and the distinction is generally not difficult, for not only are we guided very often to a right conclusion by the spasms of the hands and feet, but the fact that the child is *absolutely well* between the attacks of crowing is sufficient to prevent any mistake. In catarrhal croup, the voice is hoarse, even between the attacks of spasm, and in true croup the voice is either hoarse or reduced to a whisper, and the noise of the respiration is high-pitched and hissing.

The *treatment* of spasmodic false croup must be directed to the prevention of the spasm, and the curing of the constitutional condition which is the cause of it. The spasm is liable to be brought on by any excitement, any quick movement of the child, or anything which may be likely to rouse its emotions or passions. Children, therefore, who are liable to this disorder must be kept very quiet, and should be separated from any of their little companions who are likely to be too noisy or rough.

The diet must be most strictly attended to, and a careful surveillance must be kept lest the child get hold of any of the edible trash which is such a potent cause of sickness in children. Until a child has cut its first teeth it ought to be kept like a baby, and ought not to be allowed to be nursed at meals with the rest of the family, and be fed upon a variety of things which its young stomach is not able to digest. As soon as a child is weaned, its diet should consist almost entirely of milk and meat broths, and the less starchy matter it has the better. There is no greater mistake than to cram a child with patent foods, which are so much in vogue at present. If the child vomits curdled milk or passes white curdy matter from the bowels, a little lime water should be mixed with the milk to counteract the undue acidity of the intestinal secretions. About three table-spoonfuls of lime water to every pint of milk is generally sufficient. If the bowels

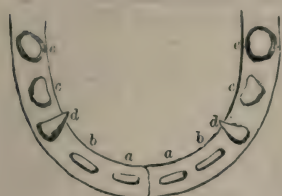
are confined, a mild alterative purgative (rhubarb, soda, and grey powder) may be given, and the motions should be carefully watched for any signs of worms or other cause of irritation.

Next look to the teeth. It used to be almost a matter of routine to lance the gums in every case of laryngismus, but some discrimination is necessary before this measure is taken. Look to the mouth, and ascertain if the child has the proper number of teeth for its age (see *Dentition*), and if it has not, proceed to ascertain whether the gums are being pressed upon and irritated by the teeth coming up beneath. If this is the case the gums are generally reddened and swollen, and so tender that the child will cry out when they are touched. It is not uncommon to find the glands under the jaw enlarged and tender. If these signs be present, then there need be no hesitation about lancing the gums; but if they are not present, such a proceeding is unnecessary, and is merely a useless infliction of pain.

Examine carefully into the child's constitutional state, and examine its head, bones, joints, and back, for any sign of rickets, and in nine cases out of ten we have no hesitation in saying that such signs will be present. This being the case, we must look to the diet, which should be as nourishing as possible, and great benefit will be derived from the administration of cod liver oil and steel wine (a tea-spoonful of each twice daily after meals). It is important, too, that these children should get as much as possible into the open air. It is a mistake to suppose that their throats are delicate and that they need coddling: such is not the case. They should be warmly wrapped up with a thick veil over the face to keep off the cold wind, and they should be taken out regularly, and, if old enough, encouraged to run about. Sometimes the child, instead of being rickety, is scrofulous, and in such cases the administration of iodine (half a tea-spoonful of the syrup of the iodide of iron once or twice a day) is advisable. Sea air in scrofulous cases is a most valuable adjunct to treatment, and the child should, if possible, have the benefit of it.

Dentition.—The cutting of the teeth is a natural process, and we have no right to class it among the diseases of childhood; but, nevertheless, the process is often a cause of so much difficulty and trouble to delicate children, and the period during which the process is going on is one which is often so critical, that we may be excused for offering a few remarks on the subject. The "first set" of teeth, or the milk teeth, as they are more properly called, are twenty in number. The first to appear are the *central incisors*, or the thin cutting teeth, in the middle of the jaws, in the very front of the mouth. These should be cut by the seventh month of life, so that at the end of the seventh month a child should have four teeth—two in each jaw. The *lateral incisors* are the next to appear. These are two in number in each jaw, and immediately adjoin the central incisors. They should be cut by the end of the ninth month, so that a child of nine months old ought to have eight teeth. At the end of the first year the *anterior molars*, or front grinding teeth, ought to have appeared; and at a year and a half the *canines*, or dog teeth, should be cut. Lastly, by the completion of the second year, the *posterior molars*, or back grinding teeth, make up

the full set of twenty milk teeth. The following scheme shows at a glance the order of cutting and the number of teeth which a child should possess at different ages :—



Age.	Teeth cut.	Total No. of Teeth.
7th month . .	Central incisors (<i>a</i>) .	4
9th month . .	Lateral incisors (<i>b</i>) .	8
12th month . .	Anterior molars (<i>c</i>) .	12
18th month . .	Canine teeth (<i>d</i>) .	16
24th month . .	Posterior molars (<i>e</i>) .	20

Even in healthy children there is some variation in the time of cutting the teeth, and if the dates above given be taken as the average, we must allow a month or two of latitude in either direction. Some children are very precocious with their teeth, beginning to cut them at three or four months old, and finish by eighteen months. Occasionally we hear tell of children being born with teeth, like Shakespeare's Richard III. :—

“ The midwife wondered, and the women cried—

‘ O, Jesu bless us, he is born with teeth!’ ”

When children begin to cut the teeth, the gum swells up and becomes tender, and is painful. This makes the child fretful and peevish, and one that was good before becomes troublesome. This is often the cause of much injudicious feeding, and unwholesome things are given to the baby to keep it quiet, or else it is over-fed, and is allowed its bottle or is nursed whenever it cries. This, we believe, is the cause of many of the troubles of teething, although we do not mean to deny that the period of tooth-cutting is really critical and trying to weak constitutions. It is, and it has for centuries been the custom to give a child something to suck or bite, with the idea, doubtless, of exercising pressure on the gums and so helping the tooth through its tough casing. A coral at least helps to keep a child quiet, and it is of use in this way certainly, and possibly in other ways. Rubbing the gums gently with a knob of sugar until a speck of blood appears will sometimes help the tooth to pierce the gum.

Before the teeth are actually cut, a white centre can be seen pressing on the swollen gum, and if this point be evidently very tender, and if the child's condition calls for any interference, it is sometimes advisable to lance the gums ; but this is a proceeding which should not be resorted to without good cause.

Whenever dentition is greatly delayed, the mother should suspect that her child, from some cause or another, is debilitated. Any weakening constitutional condition will cause delay in cutting the teeth, but the most common of all causes is rickets (see *Rickets*); and it is perhaps not too much to say that nine out of every ten children in whom dentition is greatly delayed are rickety. Tubercular or scrofulous children, or children who have been weakened by diarrhœa or lung disease, also fail to cut their teeth at the proper time. In very rare cases the condition of the gums or jaws is the cause of the delay in the appearance of the teeth ; but such

conditions are wholly exceptional and are very rarely met with. The diseases most common to the first dentition are the constitutional diseases: rickets, scrofula, and tuberculosis, which often make themselves manifest at this time. Convulsions and false croup of the spasmodic kind are also liable to occur. It is a period when children require a large amount of attention.

About the age of six, children begin to prepare for the second set of teeth by shedding the first, and children of this age are generally noticeable for their ragged mouths. There are twelve more teeth in the second than in the first set, or thirty-two in all. The extra teeth, six in each jaw, are inserted at the sides, so that the form of the arch of the teeth is different in the young child and in the adult, being exactly semi-circular in the first instance, and somewhat like a donkey's shoe in the second. These extra teeth consist of two "bicuspids" on each side, which are inserted between the dog teeth and the front grinders, and one wisdom tooth on each side, four in all, which are inserted at the extreme end of the dental arch. The permanent teeth are cut in the following order:—The anterior molars at six years, the central permanent incisors at seven years, the lateral incisors at eight years, the anterior bicuspids at nine, and the posterior bicuspids at ten years, the canine at eleven, and the second molars at twelve years. The wisdom teeth, which are the last to appear, are very uncertain in the time of their appearance, and may come at any time between the seventeenth and twenty-fifth year, or even later. The following scheme shows the times of cutting the permanent teeth:—

Age.	Teeth cut.	Total No. of Teeth.
6 years . . .	Anterior molars . . .	4
7 years . . .	Central incisors . . .	8
8 years . . .	Lateral incisors . . .	12
9 years . . .	Anterior bicuspids . . .	16
10 years . . .	Posterior bicuspids . . .	20
11 years . . .	Canines . . .	24
12 years . . .	Second molars . . .	28
17-25 years . . .	Posterior molars (wisdom) . . .	32

The second dentition is scarcely so critical a time with children as the first, although certain diseases of the nervous system, such as St. Vitus's dance and epilepsy, are very apt to declare themselves at this time. As to the act of cutting the second teeth, it is very rarely that it causes any annoyance or trouble.

Diarrhœa and Dysentery in Young Children.—It must be borne in mind that the bowels of very young children act three or four times in the twenty-four hours, and that the motions are generally loose; one must not, therefore, rashly conclude that a child is suffering from diarrhœa; but if a child of less than three months of age has an action of the bowels more than thrice, or one over that age more than twice, in the day and night, we shall not be wrong in concluding that the actions, provided they be not hard, are excessive, and need checking. It too often happens that the first acquaintance which many children make with this world is marked by diarrhœa,

produced by ill-advised measures. Many ignorant midwives have a notion that the first and best thing to do with a newly-born baby is to give it a mixture of melted butter and sugar, in order, as they term it, to "cleanse its bowels," but in reality to give it indigestion, to cause it to be early acquainted with the colicky pains of wind, and to trouble its nurse and friends with an early-developed attack of diarrhœa. This first false step leads to ignorant and injudicious tinkering with drugs, and the unhappy innocent is hurried on by its ignorant and foolish protectors from trifling maladies to those which lead to a permanent injury of the health.

The main causes of diarrhœa in children are to be found in the food—its quality or its quantity. Children are doubtless the victims of much wrong feeding, the case usually being that the food given to young children is of too complex a nature, and such as they are unable to digest. The proper food for children prior to the cutting of the first teeth is the mother's milk, which they should receive at regular intervals. A child of three months old and under should be fed regularly about every two hours, and less often during the night. It should be kept at the breast until it shows signs of having had enough, when it should be taken away and not fed again until after its regular and proper interval. It rarely happens that children who are fed carefully in this way cause any trouble whatever. If the mother has plenty of milk, it should be fed on nothing else for the first six or seven months at least. It should have no other milk, and no starchy or farinaceous food is on any account to be given until the teeth begin to appear. Milk is the proper food of children before they cut their teeth, and it has been conclusively proved that they are unable to digest starch in any form—bread, baked flour, biscuits, patent foods, or corn flour. If the latter be given they are very likely to do harm, and they cannot nourish the child. If the mother have no milk, the child must be fed on cow's milk diluted with one-third part of warm water. The meal for very young children must not be too large; and if under three months, about four ounces (eight table-spoonfuls) of milk diluted as recommended, and sweetened with a knob of sugar, may be given at a time.

When children begin to cut their teeth, and weaning has commenced, a little farinaceous food may be given; and when the child is a year old a small quantity of beef tea may be added to the diet; but until a child is two years old (until, that is, all its teeth are cut), it should be fed entirely on milk, beef tea, or broth, and bread or biscuit. When children about two years old and upwards are brought to the doctor with diarrhœa, and in answer to the doctor's question, "What are you feeding him on?" the mother replies, "The same that we have ourselves," one may be certain that the cause of the diarrhœa is want of judgment or ignorance.

Great care must be taken that the milk is neither sour nor putrid. Milk is a very sensitive fluid, and requires to be kept most carefully in a cool, *clean* place; for if it be kept in a dirty pantry or a hot stuffy room, the milk is far more likely to become unwholesome than otherwise would be the case. If the milk is sour the child is sure to have diarrhœa. In hot weather, it is a good plan to boil the milk before giving it, and it may be diluted with lime water instead of simple water. Whenever a child passes white curds from the bowel, or vomits them, we may be sure that the addition of lime water to the milk is one of the remedies needed.

Feeding-bottles require more attention than generally is supposed. Directly a

bottle has been used it should be put into hot water (tube as well as bottle), where it should be allowed to soak for some time, and should be then rinsed and put to drain in a clean, airy place until it is wanted again. The smallest particle of sour milk sticking to the cork or to the tube of the bottle is sufficient to cause the whole of the milk put into the bottle to turn sour. Always smell both the bottle and the stopper before filling it, and on no account put fresh milk into a bottle which has the least odour of sourness about it.

After a child has been fed, its mouth should be immediately washed, and on no account is the child to be allowed to go to sleep with the drops of milk unwiped from its mouth or soaking into its bib or dress. Care must be taken, too, that the nipple of the breast of the nurse (in cases of suckling children) is not only free from disease but scrupulously clean.

If these simple dietetic measures are insufficient to arrest the diarrhœa, it may be advisable to give a tea-spoonful of ordinary chalk mixture (the *mistura cretæ* of the Pharmacopœia) every three or four hours. This is almost the only remedy which may be safely administered to a young child without medical advice. No form of opium and no patent soothing medicine can be administered without danger.

Sometimes the cause of the diarrhœa is to be found in the state of health of the mother or the nurse, and a change of nurse is often sufficient to arrest the troubles of the child. The condition of the teeth must be looked to, and, if necessary, the gums may be lanced. If the child have *thrush*, the suitable remedies must be used. (See *Thrush*.) The mother must always bear in mind that an obstinate diarrhœa may be caused by typhoid fever or by tubercles in the bowels. Diarrhœa is one of those troubles which should never be allowed to go on unchecked or without giving the child the benefit of skilled attention, if possible.

There is one variety of diarrhœa to which young children are liable, and that is the *mild dysentery*, with which they are often attacked in the autumn. The difference between simple diarrhœa and dysentery is this, that in the latter disease there is an inflammatory condition of the lining membrane of the large bowel which requires special treatment. This form of dysentery (which, although bearing the same name, is hardly to be compared with the terrible forms of dysentery met with in the tropics) is accompanied usually by slight pain and some tenderness of the bowels. The belly is sometimes distended and sometimes sunken in, and the child passes from its bowels not only the ordinary motion, but *slimy mucus, and even blood as well*. It is the passing of blood and mucus from the bowel which points out the real nature of the affection.

The cause of this dysentery is, in the first place, improper feeding of all kinds, and the remarks which we have made *apropos* of diarrhœa are equally applicable to the *treatment* of dysentery. It seems to be most common in low-lying districts, and it is probable that a malarious condition of the atmosphere is occasionally to be regarded as one of the causes. The administration of decomposing vegetable matter and unwholesome fruit to children, which is particularly liable to happen in the autumnal season, is undoubtedly a potent cause of this affection.

The best treatment for this condition is the repeated administration of small doses of castor oil. Five drops of castor oil with an equal quantity of gum water, given in

a tea-spoonful of cinnamon water every three or four hours, acts very often like a charm. If there be much pain, or if the discharge from the bowels be very copious, it may be necessary to give a small quantity of laudanum; but the administration of laudanum to young children requires so much judgment, and is a matter which, in unprofessional hands, is fraught with so much danger, that we forbear to name the dose which is requisite. We rather feel it our duty to repeat that neither laudanum or opium in any form, nor indeed any narcotic drug, whether in the form of a patent medicine or otherwise, ought ever to be administered to a young child unless by the advice and with the consent of a medical man.

Bad water is also a cause of dysentery, and the source of the water supply should be looked to in every case, so as to find whether or not the water has been contaminated by sewage, or by any other decomposing matter, whether animal or vegetable.

Falling Down of the Bowel—or *prolapsus ani*—is an accident which is liable to happen occasionally to weakly, and especially rickety, children. When the child goes to stool the bowel protrudes, and does not go back again. This condition of things is brought about—first, by the state of the child's health, which occasions a relaxed condition of the bowel; secondly, by any undue irritation of the bowel, as by worms; and thirdly, by constipation, which by causing the child to strain excessively at stool, produces the mischief. The condition need cause no alarm, for, although it is a strong indication of impaired health, it is not in itself dangerous.

The *treatment* consists, first, in the careful regulation of the child's health, and the administration of astringent tonics; cod liver oil and steel wine (a tea-spoonful of each) twice a day, after meals, is productive of great benefit, and is often sufficient in itself to effect a cure. The bowel should be carefully replaced after every motion, and, if necessary, it may be retained in its place by a conical pad fastened on by a bandage. The parts in the neighbourhood of the bowel must be kept carefully cleaned, and should there be any indication of the presence of worms, suitable measures must be instituted for the removal of them. The diet must be regulated with great care, and all indigestible food be most rigidly avoided, and constipation must be carefully guarded against; at the same time, care must be taken not to administer purgatives of too violent a kind. If we can ensure a perfectly free action once a day, that is all that is necessary. It is often easy to effect this by adding something to the diet that has a slightly laxative effect, as fresh fruit, tamarinds, stewed prunes, or figs. A tea-spoonful of phosphate of soda, dissolved in beef tea or milk, is a very agreeable purgative for children, and if administered hot it is usually very effectual.

False Croup.—(See article *Croup*.)

Fits.—(See *Convulsions*.)

Gangrenous Ulceration of the Cheek.—This is a very serious condition indeed, and is one that occasionally attacks children when they are recovering from the infantile fevers, and especially after measles. It is most common between the ages of two and thirteen, but happily it is a rare condition. The first symptom consists in a swelling of the cheek, which often has a tense shining appearance, and on touching it we find a

hardened spot, which is perhaps better felt if one finger be applied to the inside and the other to the outside of the cheek. The skin over it is generally red, and the condition is not unlike an angry carbuncle growing in the thickness of the cheek. This swollen patch mortifies or sloughs, and then we get extensive ulceration, with discharge of matter and shreds of core. This ulceration may spread enormously, so that the teeth fall out, and pieces of the jaw-bones loosen and come away. The glands of the neck and under the jaw get very much enlarged. The child but too often dies, the mortality from this alarming complaint equalling seventy-five per cent. of the total cases. Death is brought about either by exhaustion or by blood-poisoning secondary to the local condition. This disease is not due, as has been asserted, to the administration of mercury.

The *treatment* must be local and general. For the local treatment very strong measures are necessary, and it is always advisable to have the opinion and assistance of a surgeon. The gangrenous surface of the wound must be destroyed, so as to stop the gangrenous action, and for the effecting of this, strong aquafortis is probably the best application. It must be applied thoroughly and to every spot of the wound, or it may have to be repeated. Disinfectants must be used to cleanse the mouth, and the strength of the child must be supported by every possible means. The strongest soups, beef tea, port wine, arrowroot, and other nourishing and wholesome food, must be given liberally. In a condition like this there need be no hesitation about giving wine even to very young children, as they take it well, and it will certainly do them good.

German Measles.—This may be looked upon as a new disease, and although it has long been recognised by German physicians, it is only of late years that it has been noticed in this country. It is also known by its German name of “Rötheln,” and has occasionally been spoken of as *hybrid measles* or *hybrid scarlatina*. Such names are not good, because they are liable to lead to the false impression that the disease in question is a mixture of measles and scarlatina. The premonitory fever in Rötheln very closely resembles that of measles. There is malaise, headache, loss of appetite, running at the nose, and occasionally a painful condition about the eyes. It is of much less duration than in measles, and lasts generally only twenty-four hours instead of four days.

The eruption very closely resembles that of measles, but is often more copious, and is liable to coalesce, so that the skin appears uniformly red. The rash, indeed, begins like measles, and ends often like scarlet fever. The eruption lasts a longer time than that of measles, and its duration varies from five to ten days. After its disappearance there is a general peeling of the skin. This is more marked than ever is the case in measles, but is not nearly so pronounced as in scarlet fever.

The sore throat is always a prominent feature. It is never so severe as the throat affection of scarlet fever, but it is, nevertheless, more severe than that met with in measles, and often endures until the disease has completely run its course.

The disease is contagious and infectious, but it invariably gives rise to true Rötheln, and not to measles or scarlet fever, as one might suppose from the name *hybrid* which has been given to it. Neither does Rötheln protect from measles or scarlatina, nor do either of these diseases protect from Rötheln.

For treatment, see article on *Measles*.

Whooping Cough.—(See *Whooping Cough*, p. 70.)

Gum Boil.—(See DOMESTIC SURGERY.)

Hydrocephalus.—(See *Water on the Brain*.)

Intus-susception of Bowels.—(See article on *Constipation*.)

Incontinence of Urine.—(See *Bed-wetting*.)

Infantile Paralysis.—(See *Children's Paralysis*.)

Intertrigo.—(See *Chafing*.)

Laryngismus Stridulus.—(See *False Croup*.)

Measles.—This is certainly the most common of all the diseases of childhood, and very few children indeed escape their attack of measles, which is almost looked upon as one of the early and necessary consequences of existence. It is not, properly speaking, a disease peculiar to early age, but being one of the most infectious of the infectious diseases, human beings seem invariably to contract it when they are first brought in contact with its influence. When measles attacks a "virgin population," as it is called, *i.e.*, a population which has not previously suffered from the disease in question, it is found to attack all ages alike, and the elderly are found to suffer quite as severely as the young. Thus, in 1845, the measles invaded the Faroe Islands for the first time, and it was found that scarcely one of the inhabitants escaped being attacked by the disease; and one of the consequences of our annexation of the Fiji Islands has been the importation of measles there, and we need not do more than recall to the mind of the reader the severity of the epidemic and the large number of fatal cases. The disease is far more severe and far more fatal when it invades a country for the first time; and it seems as though we inherited from our measles-infected ancestors and transmitted to our offspring some power of resisting the attack, which is not found among those whose history records no epidemic of this commonest of maladies. Even in this country we find that measles is capable of attacking old persons as well as young, and no one can be considered as freed from all liability until he has once suffered. It is rare for a person to suffer more than once, and, as a rule, one attack is found an effectual protection; but this is not always the case; and every one who has had an average experience of life can recall cases of persons who have suffered a second time from undoubted measles.

Measles is so infectious that it is often impossible to say how the child contracted it, and if one child in a house suffers, it is almost the invariable rule that all the denizens of the nursery suffer by turns. The infection of measles is probably conveyed by the air, and consists, it is not unlikely, of fine particles given off with the breath, or rubbed off the skin, which, floating in the atmosphere, are swallowed or inhaled, and give rise to measles in the person by whom they are taken in.

"Measles being so infectious," the question may be asked, "is it any use to try and prevent them?" To this we should say, decidedly, yes, and especially if the child be very young. We think no mother would be justified in running any risk

by allowing her babies to have any intercourse with houses or families where this complaint is known to exist. Very young children have necessarily less resisting power for disease than older ones; and if the attack of measles can be warded off until the child is a couple of years old, and has passed through the period of cutting teeth, the chance of its passing successfully through the measles, and making a complete recovery from them, is very greatly increased.

Symptoms.—Measles may be likened to a very bad influenza cold, with a rash. The child appears “out of sorts;” is peevish, perhaps; does not take its food with a relish; and instead of participating in the amusements of its fellows, is more inclined to keep quiet, to lie down on the sofa, or even to remain in bed. Then comes a little sniffing at the nose, a running at the eyes, and perhaps a trifling sore throat. These symptoms are very characteristic, and any nurse who has had the ordinary experience of the nursery would, on seeing these, suspect the onset of measles. Any child presenting the appearances we have mentioned should at once be separated from its fellows until the disease has either passed away or declared itself. In these early stages the child is feverish, and the temperature of the body (as measured by a thermometer) will be found increased. It is probable also that a child is infectious even in this very early stage, and its being placed in quarantine may be now too late to prevent the spread of the disease, but we nevertheless strongly advise separation as a precautionary and proper measure.

After the child has suffered for two or three days (generally three) from this feverish cold the *rash* appears, and when the rash appears the other symptoms generally increase somewhat in severity. The rash appears first on the forehead, *at the roots of the hair*; next it goes to the cheeks; then the chest and surface of the stomach are attacked; and lastly the arms and legs. The rash consists of rose-coloured spots, varying in tint very much, as the tints of red blotting-paper vary, from a pale pink to a decided red. The spots are of an average size of a small split-pea, and may be scattered in separate spots or so close together as to make the skin look uniformly red. They are sometimes collected together into crescentic patches, but the crescents as a rule are not easily recognised. Each spot is said to last about twenty-four hours, and then fades, and the eruption ought to have subsided entirely by the end of the fourth day after its appearance. As the eruption subsides the other symptoms subside also: the feverishness abates; and at the end of a week, in favourable and average cases, the child will have passed through its measles with very little trouble to itself or its friends.

We have described an average attack, but it not unfrequently happens that the special symptoms which we have enumerated are so severe as to give real annoyance, if not to cause alarm. Thus the eyes are not unfrequently much reddened and inflamed. The child feels as if there were sand beneath the lids, it is unable to bear the daylight, and the discharge from them may be considerable in amount. The discharge from the nose may be copious, accompanied by incessant sneezing, and at times bleeding from the nose may take place. The sore throat, too, may be troublesome, and the glands under the jaw and round the neck may become enlarged and tender. The rash, as we have said, varies in amount, and in rare cases the whole face becomes red and swollen, and the poor child is a pitiable object, with its eyes

swollen up and intolerant of light, its throat too sore to swallow, its nose tender and discharging, almost deaf from the spreading of the trouble from the throat and face to the ears, and harassed by incessant coughing and sneezing.

When measles runs an uncomplicated course, it is not a disease which generally causes much alarm. When measles is fatal, it is so by its *complications*; and it is for these complications which the friends and the doctor should ever be on the look-out, and for the prevention of which much of the treatment is directed.

These complications often occur in the windpipe or lungs. We may have inflammation of the windpipe established, or inflammation of the lung-tubes (*bronchitis*), or inflammation of the lung substance itself (*pneumonia*). These complications are all serious, and are indicated by noisy breathing, great increase of cough, very rapid respiration, and sometimes by signs of impeded respiration and commencing suffocation. When any of these complications occur, the child cannot be considered to be free from danger.

Complications referable to the bowels are not uncommon, and obstinate diarrhœa often proves a great trouble. It should be considered a rule that during measles all purgative medicine should be given with a most sparing hand, lest by setting up diarrhœa the life of the patient be jeopardised. Measles is liable to be confounded with certain other diseases, or other diseases which resemble measles may be mistaken for it. Children are not unfrequently troubled with a rash closely resembling measles, which is called *roseola*, but which differs from measles (1) in coming out all over the body at once; (2) by not running a definite course; (3) in not being accompanied by the running at the eyes and nose which are characteristic of measles; and (4) by often being directly attributable to some error in diet.

Small pox and *scarlet fever* have both been mistaken for measles—an error which may be fraught with serious consequences. The mode of outset of small pox is more severe than that of measles, and the eruption differs in several ways: thus, the small-pox eruption begins in the centre of the face, while that of measles is at the roots of the hair; the small-pox eruption is raised and hard and soon becomes mattery (pustular), while that of measles is scarcely perceptibly raised, and never suppurates. The commencement of scarlet fever is usually marked by the severity of the throat symptoms, while in measles these are generally of a subordinate character. The eruption of scarlet fever is a bright scarlet, composed of fine dots, and commences at the root of the neck and top of the chest.

When the disease has subsided, and convalescence sets in, the child requires the greatest care, for patients who are recovering from any febrile disorder, but more especially measles, are very prone to fall into constitutional weaknesses, which may prove rapidly fatal, or cause a "delicacy" of constitution which may last for a lifetime. *Tuberculosis* in one of its forms may be, and very often is, established; and it is no unusual thing to see a child become consumptive, or succumb to *meningitis*, or tuberculosis of the intestines (*marasmus*). Discharges from the ear, which are often very troublesome and difficult to cure, are not unfrequently caused by measles. Gangrene of the cheek is a somewhat rare occurrence, and happily so, for when it happens it is almost invariably fatal. During convalescence from measles, children are peculiarly liable to contract whooping cough, and, strangely enough, the

reverse seems also to hold good, for children suffering from whooping cough are peculiarly liable to contract measles.

The *treatment* of uncomplicated measles is a very simple matter. The disease itself requires no treatment. There is no antidote for measles; and in spite of drugs and medicines it will run its course. The chief thing to be aimed at is to take care that while the child is suffering from measles it takes no harm. The patient should be kept in a warm, well-ventilated room, and is probably safer in bed than running about. Happily, the patient often prefers being in bed, so that there is no difficulty in keeping him there. The light should be partially excluded from the room if there is much soreness of the eyes, and these, as well as the nose and mouth, should be kept scrupulously clean by occasional washing with warm water. If thirst is complained of, toast and water or lemonade, made without or with very little sugar, may be given to drink. The skin should be sponged once a day with warm water to which a little vinegar has been added. This should be done with the greatest care, since any undue exposure to the risk of catching cold is above all things to be avoided. The food should be bland, nourishing, and simple, and should vary according to the age of the patient. Milk, barley-water, soft puddings of custard and farinaceous articles, beef tea, mutton or chicken broth, bread-crumbs and gravy; and for older children, a dinner of boiled mutton or chicken may be given. Food should be given at regular intervals, and, as a rule, no departure need be made from the regulated times for meals. If drugs become necessary, they should be given only by the sanction and under the supervision of a medical man.

Not only is it necessary to insure that the little sufferer passes safely through the attack, but it is of the greatest importance also to guard against the invalid becoming a centre of infection to others. No child who has had measles should be allowed to mix with other children until the temperature has fallen to the normal amount (98°4 Fahrenheit), and all the other symptoms have entirely subsided. After the rash has disappeared, a little roughness, scalliness, or scurfiness of the skin is liable to prevail in those places where the eruption has been most severe; and, although this scaling of the skin is far less marked than it is in scarlet fever, no child can be said to be free from infection until it has disappeared.

When all the symptoms have completely subsided, the child should be thoroughly bathed and washed with soap, and all its clothing, bedding, bed and window curtains, and the clothing of those who have been in attendance upon it, should be thoroughly washed. The carpets, furniture, etc., of the room should likewise be cleaned, and, if possible, thoroughly exposed to fresh air and sunlight. It should always be borne in mind that during convalescence from even a slight attack of measles, children are in a delicate state of health, and require more than an ordinary amount of care and attention, and a watchful eye should be kept upon them for a month at least, to take early notice of any signs of constitutional weakness.

Meningitis.—(See article *Tuberculosis*.)

Mothers' Marks.—(See DOMESTIC SURGERY.)

Mumps, otherwise known as *parotitis*, is a disease which is characterised by a

painful and inflammatory swelling of the salivary glands. It is generally limited to the parotid gland—the one just below and in front of the ear on either side—but it may affect the glands which are under the jaw and tongue as well. It is a general disease, and not a local one. It is, in fact, a specific fever, and must be placed in the same class as measles, small pox, &c. The affection of the salivary glands is what is known as the local manifestation of a general disease, and is distinctly analogous to the eruption of small pox, the ulceration of the bowels in typhoid, and the sore throat and rash of scarlet fever. It is distinctly infectious, and once being introduced into a house it usually runs through the household. Although most common in childhood, it is by no means limited to the first years of life, but is tolerably common at any age up to thirty; but beyond this period it is said not to occur. The period of the commencement of the second dentition is perhaps the most common time. The period of incubation, *i.e.*, the time which elapses between the exposure to the contagion and the first manifestation of the disease, is said to vary from one to three weeks. The disease usually begins by a feeling of pain in the neighbourhood of one ear, which is greatly increased during any exercise of the jaw, as in eating. The characteristic swelling then appears, and this is often sufficient to cause a considerable deformity of the face. The swelling is just below the ear, behind the angle of the jaw, and extends also a little forward over the angle of the jaw to the front of the ear. It is uniformly smooth, and is more or less tender all over the surface. The swelling begins first on one side, and then, as this subsides, the other side is usually attacked. When the swelling on both sides occurs in this way, we may almost certainly assert that the disease we have to deal with is mumps and nothing else. At this period there is considerable general disturbance, and, besides the local trouble, the patient complains of headache, thirst, loss of appetite, and general malaise. The temperature in the earliest stage is considerably raised, and a thermometer placed in the mouth will usually register 100° Fahrenheit, and may rise much higher, to 103°, and even over. The patient feels miserable, and prefers to be left alone. Even if the appetite remains fairly good, the act of taking food is often so painful as to render it impossible. When the glands under the jaw are affected as well as the parotids, the patient's condition is really pitiable. It often happens that the pain is far less in children than it is in adults. Associated with the swelling of the salivary glands there is often a good deal of enlargement and tenderness of the lymphatic glands at the side of the neck. Although the swelling is often very great, and the skin over it may become reddened, matter hardly ever forms in the gland, and the swelling usually subsides again completely.

The disease usually reaches its height before the end of the first week—sometimes, in mild attacks, after a couple of days. It then begins to decline, and is fairly over at the end of eight or ten days, and the child is quite well again. One attack protects from another.

Although the disease happily, as a rule, runs a mild course, it does not always do so, and there is a great liability in mumps for *metastasis* to occur—*i.e.*, for the inflammation to shift its ground and attack other parts. The parts most liable to suffer are the *puddenda*, but this is especially the case with boys, and a watchful eye must be kept over them for the first appearance of any trouble of this kind.

Occasionally, too, the brain may suffer, and it not unfrequently happens that during an attack of mumps the first signs of tubercular meningitis become manifest. It is because of these possible serious complications that mumps must be considered as one of those diseases during which, no matter how mildly they may suffer, children require unremitting attention.

The only disease for which mumps is likely to be mistaken is an inflammatory swelling of the glands over and in the neighbourhood of the parotid—the so-called *parotid bubo*—which sometimes forms during or after scarlet fever, and, less frequently, after other of the febrile attacks of children.

The *treatment of mumps* is very simple. Those affected should be separated from those non-affected, and it must be borne in mind that a child is supposed to be infectious for at least three weeks after it is first attacked. Many thoughtless persons might be inclined to say, "Such precautions are nonsense: mumps is a mild disease, and the sooner the children have it the better." Such an argument cannot be too strongly condemned, and we think that those who do not use every reasonable precaution to protect their children from disease of all kinds, no matter how slight and trivial it may appear, incur a very grave responsibility. If mumps is a trifling matter, we have shown that its complications are often serious, and we would further insist that during convalescence from these little diseases children are often left in a very vulnerable state, and are liable to be attacked by constitutional maladies of a very grave nature. Children need not be kept in bed, but they must be kept in an equable temperature, and not exposed to draughts. The bowels must be regulated by a little phosphate of soda given in broth, and the diet must be nourishing and soft—soups, beef tea, eggs, arrowroot, and so forth. If there is much thirst, some lemonade to which some bicarbonate of potash has been added will be found grateful. Iced seltzer water (the true, not the artificial) is often appreciated. Unless the local swelling is very bad, no treatment need be resorted to; but if there be much pain or tension, warm-water fomentations constantly renewed will be found to give relief. If fomentations or warm applications are used, it must be constantly borne in mind that after their removal the parts are very liable to suffer from the effects of cold, so that they must be constantly and carefully wrapped up in flannel. If the testicles become inflamed, the boy must immediately be sent to bed, and kept there till the inflammation subsides.

When the disease subsides, which is best judged of by employing the thermometer, it may be advisable to give some tonic medicine, such as quinine, bark, iron, or the mineral acids, and the remarks we have made about the convalescence from this disorder must not be forgotten.

Nævus, or *Mothers' Mark*.—(See DOMESTIC SURGERY.)

Night Terrors.—This is one of the minor troubles of childhood which often prove alarming to the friends. A child is put to bed in good health and spirits. After it has been asleep some two or three hours, shrieks and cries are heard coming from its bedroom, and when the mother has run in to see what is amiss, the child is found sitting up in bed in an agony of fright crying at the top of its voice, and with the

tears streaming down its face. "Take it away, take it away! That thing! There it is! there it is!" are probably the terrified expressions to which the child gives utterance, and perhaps it points to some gown or curtain which, hanging on a peg, and half illumined by the moonlight, has been mistaken for one of the ogres or bogies with tales of which its nurse has filled its infant mind. The child at first refuses to be comforted, and in spite of the presence of light and of friends, it is still apprehensive that something is wrong. The mother should sit by its bed, hold its hand, and talk to it, and its mind being diverted from that which caused it alarm, it will not be long before it falls asleep again. These troubles do not occur more than once during the night, but they are very apt to recur at the same hour every night. They need not, as a rule, cause alarm. They are seldom the precursors of fits, or epilepsy, or of any serious trouble, and they are usually to be attributed to some difficulty in digestion, or to some error in feeding. The child has probably made its first acquaintance with nightmare, and has seen in its dreams some weird face, with many varieties of which we become acquainted as we grow older. Nightmare will cause an adult to wake with a start, and with a feeling of devout thankfulness that "it was only a dream," and it is not to be wondered at that children should fail to put the proper interpretation upon these alarming apparitions of our sleeping hours. Children who suffer thus often require a dose of mild aperient medicine, such as Gregory's powder, or rhubarb and soda, and if this be given, and care be taken that its last meal is of a light and digestible nature, these night terrors will cease to be a trouble to the child or its parents.

Red Gum.—This is a very common disease among children from birth until the completion of the first dentition. It is technically known as *strophulus*, and consists of a sprinkling of pimples or papules irregularly scattered over the body. The pimples are usually small, about the size of a pin's head, and are occasionally the seat of troublesome itching. The eruption is of small importance. It sometimes depends upon slight derangement of the stomach, and occasionally is attributable to the irritation of dentition.

The *treatment* is almost nil. The child's diet must be supervised, and, if necessary, a dose of carbonate of soda is to be given, or a little lime water may be added to the milk.

Rickets.—This is a disease which every one who is much brought in contact with children should endeavour to understand. It is very common in London and other large English towns, and has been called on the Continent the "English disease." Its main features are a softness of the bones, and a general muscular and constitutional weakness. The softness of the bones leads to deformities of the limbs, chest, and back, and most of the crooked-limbed cripples and dwarfs that we see in this country have been the victims of rickets. There is another disease occurring in adult life which is characterised by softness of the bones, but that is quite different from rickets, which is a disease limited to childhood. Children are not born rickety, but the symptoms appear during the completion of the first dentition (between the seventh and twenty-fourth month). The child appears not to be well; it is irritable and languid, and does not care for its food. The motions from the bowels are

particularly offensive, and often have a rotten odour, from the decomposition of undigested food in the intestines. The child is pale, sallow, and muddy-looking: it is restless at night, kicks the bed-clothes off persistently, and when it sleeps it perspires freely, so that its night-dress becomes quite wet, and the perspiration stands in beads upon its forehead, and soaks the hair and the pillow. When these symptoms appear before the completion of the second year, the rickety constitution may be suspected, and it is important to detect it before any deformity has occurred.

The growing ends and margins of the bones are bigger and thicker in rickets than they should be, and to these points we accordingly look for confirmatory evidence. The joints are big and clumsy, as an inspection of the wrists and ankles shows. The ends of the ribs, where the bone joins the breast-plate of gristle which closes the front of the chest, are enlarged, and by passing the hand over this line of junctions we may feel them to be big and nobbly. The anterior fontanel (the opening between the bones on the crown of the head) remains unduly open, and keeps so until after the twenty-fourth month, at which date it is closed in healthy children, and the edges of the bones forming the side and top of the skull may (by a practised hand) be felt to be enlarged. The general lassitude of the child is a very marked feature; and, indeed, the muscular weakness is as strongly characteristic as is the softness of the bones. The child no longer delights in being played with, and neglects the games which lately were its greatest source of joy. It does not, as most healthy children do, draw its feet up towards its mouth; and when it is lifted from its cot or dandled by its nurse it cries with pain instead of crowing with delight. In some rare cases, the muscular weakness is so great, and the general helplessness of the child is so marked, that it has been compared to a lay-figure made of wet brown paper. Soon the deformities make their appearance. They are due to the softness of the bones. The pigeon-breast is perhaps the most common and characteristic of these. The sides of the chest fall in, and the breast-bone projects forward not unlike the breast of a bird. The back gets bowed outwards, and it is characteristic of the crooked back caused by rickets that it sometimes will straighten out if the child be held up by the arm-pits. The arms and forearms are bent outwards. The thigh-bones bend forwards, and the bones of the legs bend out, so as to produce the extremest degree of bandy-legs. The head gets big, and the forehead is high and square, and this, coupled with the dislike for the sports of infancy which the child acquires, generally causes it to be looked upon by its friends as a prodigy of cleverness. This is far from being the fact, however, and the intellectual power is not unfrequently as much below par as the physical; but since these children often sit with their elders instead of playing with their fellows, they are apt to pick up a few quaint and old-fashioned expressions, which give the false notion that they are clever beyond their years. The teeth are late in being cut, and, indeed, rickets is the commonest of all causes of delayed dentition.

Rickets is not in itself a very common cause of death, but the rickety condition very largely increases the danger of other diseases, and notably of all diseases that affect the lungs. Whooping cough is a very fatal disease to rickety children, and so is bronchitis. The reason of this is that, owing to the softness of the walls of the chest, the child is unable to distend its lungs with air properly, and consequently

it has a great difficulty in coughing. If, therefore, bronchitis should set in, and secretion is poured into the lung tubes, the child is not able to cough it out as a healthy child does, but dies suffocated. These weak, rickety children are peculiarly liable to be attacked with bronchitis during measles and whooping cough, and when so attacked they very generally die; and, although the death is generally ascribed to bronchitis, it ought really to be ascribed to the rickety condition. *Laryngismus stridulus*, or false croup (see *False Croup*), is another disease which is very common in rickety subjects, and so, too, are general convulsions.

The subjects of rickets are very thin, and they are often spoken of as suffering from atrophy. The liver is occasionally enlarged, as is also the spleen, and this, together with weakness of the abdominal muscles, causes a prominence of the belly.

The bones of rickety children have been found to contain scarcely one-third the proper amount of earthy matter.

Rickets is probably one of those diseases which is absolutely preventible, and hence a knowledge of the causes which are said to produce it is of the utmost importance. First, then, it is not hereditary. Parents of healthy constitutions may have rickety children, and parents who have been rickety do not seem liable to transmit the disease from which they have suffered. The health of the mother at the time she is pregnant with and nursing her child seems to have considerable influence on the development of rickets. The first children in a family are seldom rickety. The disease usually shows itself after the birth of one or two children, and after rickets has once shown itself the subsequent children seem also to be liable to the disease. The explanation offered of this fact is as follows:—A poor man marries, and his wages are, perhaps, adequate for his position in life. In a year, probably, their firstborn arrives, but if they have been prudent people, and have been properly thrifty, something has been saved to meet the slight extra expense entailed, and their one child is a scarcely appreciable burden on their exchequer. The mother, being well-fed, is able to nurse her offspring without difficulty, and the child passes satisfactorily through its infancy. The family continues to increase, but not so the wages of the father, and when the second child arrives, and still more when the third makes its appearance, the parents begin to find that what was enough for two is not enough for five. The mother, probably, has to live upon a scantier diet than heretofore; and, in addition to the call upon her system entailed by suckling a baby, she finds that the performance of her household duties is no slight tax upon her strength. Dreading the periodic increase of her family, she suckles her baby much longer than she ought, and instead of nursing it for nine months, she probably keeps it at the breast for twice that period, hoping thereby to escape becoming pregnant. As a consequence, she becomes terribly anæmic; she looks pale, bloodless, thin, and weak. Her strength is not sufficient for her household work, her head aches, her heart palpitates, and the slightest extra exertion makes her pant for breath. In this weakened state of health she becomes pregnant again, and this fourth child, born of parents in straitened circumstances, and nursed by a mother whose blood has been impoverished by want of proper food and over-nursing, is almost certain to become rickety. One rickety child having been born, and the circumstances which have produced it not being removed, subsequent children are

sure to be rickety also, and generally they show an ascending scale of the rickety constitution as we descend from the elder to the younger members of a family. Over-suckling has perhaps more to do with the production of rickets than any other of the single causes mentioned; and it cannot be too strongly impressed upon young mothers in every station of life, but especially amongst the poor, that such a proceeding is in the highest degree immoral, and far from lightening their labours or helping to keep their families within convenient limits, it will assuredly increase the one a hundredfold (for in the place of a healthy mother presiding over a family of healthy children, we see a weak, sickly woman struggling with a family of cripples); and as for the other object sought to be obtained, there is no evidence whatever as to the possibility of gaining such an end, and, even if there were, the immorality of the proceeding is such that any woman practising it ought to be ashamed to confess it. *Any woman suckling her children after the ninth month, except under wholly exceptional circumstances, is doing a thoroughly wicked thing;* and what is more to the purpose, perhaps, a wicked thing which will bring a terrible punishment upon her and hers in the shape of sickness, which will multiply the trials of life enormously.

Rickets is certainly most common among the poor, but it is not altogether limited to the poorer strata of society. Occasionally we encounter rickets in a mild form among the well-to-do, and even the wealthy; and when such is the case, we shall find that the mother has been having her family very rapidly, or that something has occurred to depress her health during pregnancy, or that she, too, has made the fatal mistake of nursing her children for too long periods.

Although rickets is certainly attributable to the causes mentioned, there must be other causes at work which are less understood. It is a disease, for instance, which is probably more common in London than in any other large town in the country; and, curiously enough, it seems to be almost as rare in Glasgow and some of the large towns north of the Tweed as it is common in the Metropolis. There may be climatic influences which help to cause the difference, or possibly the common use of oatmeal among the Scotch poor may give a stamina to the constitution of the mothers and children which is not to be got from wheaten flour. Possibly, too, the great want of light in London, and the difficulty of getting to the outskirts of our huge town for even the occasional enjoyment of country air, may have their share in increasing the causes of anæmia (or bloodlessness) among our women. These, however, are merely surmises.

The treatment of rickets is happily tolerably satisfactory, and there are few diseases in which we are able to effect so much and such permanent benefit.

First, we must remove the cause, and point out to the parents of the children the evil influences which are at work for the production of disease in their children. We must see and try to ensure that the mother as well as her children are properly fed in accordance with the recognised rules of hygiene (see chapter on *Hygiene*). The ignorance existing among the poor as to the proper feeding of children is something truly lamentable, and it is no uncommon thing to see a child drawing part of its nourishment from Nature's fount, and alternating this with bread, red-herrings, underdone potatoes, or whatever else is to be found on the badly-furnished

dinner-tables of the poor. A child that shows symptoms of rickets wants a nourishing food that will make blood; milk and strong beef tea should be the staples of its diet, and if it have any teeth it may be allowed to chew meat for itself. It is better to give a child a good-sized piece of meat and let it chew it, than to feed it on meat minced to such a size that it is able to "bolt" the pieces without masticating them. The child should be fed at regular intervals, and should not be allowed to eat trash between its meals, and so destroy its appetite for really nourishing and valuable food. Farinaceous food should be given sparingly until the child has got sufficient teeth to be able to champ it in its mouth; for farinaceous articles are very difficult of digestion unless they are properly and thoroughly mixed with the saliva in the mouth. Oatmeal porridge is a form of farinaceous diet which is too little given to children south of the Tweed. Tea should never be given to infants, and alcoholic drinks (except in the case of acute illness) should be entirely withheld. Next to good and wholesome food, fresh air is of the greatest importance, and a rickety child should be taken for its daily airing without fail. It should be well wrapped up, and its face and chest should be thoroughly protected, for a cold which would be a trifling ailment for other children might prove fatal to one who has a weak, rickety chest.

With regard to *drugs*, there are several which may be given with advantage. The state of the child's bowels should be very carefully attended to. If the motions are offensive, a powder consisting of two grains of *rhubarb*, mixed with an equal quantity of *carbonate of soda*, may be given once or twice a week at bedtime to a child a year old, or five grains of *Gregory's powder* may be given with advantage. If there is much tendency to acidity, or if the child vomits or passes from its bowels white lumps of curdled milk, it is advisable to mix lime water with the milk. Even when the child is suckling, it may be given milk and lime water (in the proportion of half a pint of the former to two table-spoonfuls of the latter) as well.

The above-mentioned drugs may be given to improve the digestion, but, in addition to these, remedies for the general health are of great service. Happily we have in *cod liver oil* a drug which may be given with the greatest benefit to rickety children, and which in most cases they take very readily. There may be a little difficulty at first, but very soon they learn to like it, and we have even known children for whom this invaluable medicine has been prescribed go to the cupboard where it is kept, and help themselves from the spout of the bottle. The mistake is often made of giving cod liver oil in too large doses, and then it often makes the child sick, and creates a disgust which is above all things to be avoided. A tea-spoonful is quite enough for a dose, and this, repeated twice a day, will often work wonders. The cod liver oil may be given with a small quantity of milk or orange wine, or, still better, it may be mixed with an equal part of *steel wine*, and then we have the advantage of giving two valuable drugs at the same time. The steel wine, if it be not mixed with the oil, may be given separately, and a tea-spoonful twice a day, given after meals, is of the greatest service, and is scarcely looked upon by the child in the light of a dose of medicine.

When the *deformities* of rickets make their appearance, the question arises, What

is to be done for them? The deformities are due to the softness of the bones, which are unable to bear the weight of the body, or perform the work required of them. If the legs are bent, the child must not be allowed to walk, for if it do so, the deformity will assuredly increase; and it needs no great knowledge of mechanics to see that, if the bones of the legs have become bowed, any pressure exerted on the top of those bones must increase the amount of the bowing. Splints have been used to straighten the legs, and assuredly, if the bowed legs be properly and scientifically bandaged to the splints, the deformity may be very much reduced, if not cured; but while the splints are being used for the legs, *the child must on no account be allowed to walk*, for it must be borne in mind that all the bones in the body are as soft as those of the legs, and that although the splints may prevent the leg-bones from bending, yet the weight of the trunk will cause a curvature of the spine, and probably a deformity of the hip-bones, which (if the child be a girl) may seriously interfere with child-bearing hereafter, and even, should she ever become pregnant, endanger life. A child that is the subject of rickets should be "taken off its legs" for a time, and encouraged to keep the horizontal position, and when it takes the air, it should do so in a long-bodied perambulator, in which it can lie at full length.

In concluding this account of rickets, we think it right to state that most of our knowledge of the disease and its causes is attributable to the quick perception and diligent research of Sir William Jenner, K.C.B.

Ringworm.—This is a most troublesome and infectious disease, and although it is not dangerous to life, it often interferes for many weeks, or even months, with the child's education, since it is never safe for a child with ringworm to mix with other children. There are two varieties of ringworm: ringworm of the scalp, and ringworm of the body. They resemble each other in this, that, beginning from a centre, they spread from that centre, and gradually enlarge, forming circular patches on the head and red scaly rings upon the body. They are both caused by the growth of a vegetable parasite—a fungus, in fact—in the roots of the hair, and in the superficial scales of the skin (the cells of the epidermis). If we may compare small things with great, we may say that the rings of ringworm are exactly comparable to the "Fairy rings" we see upon the Downs in the South of England, which grow centrifugally, enlarging day by day, and having their outer limits marked by a crop of fungi, or toadstools, as they are popularly designated. So when the hairs from a patch of ringworm are examined with a microscope, we see the spawn and the fruit of the fungus, which are far too small to be visible to the naked eye. The fungus has received the name of the *Trico-phyton tonsurans* (*Anglice*, "the shaving hair plant"), to the growth of whose "mycelium" and "spores" the phenomena of ringworm are attributable.

Ringworm of the Scalp occurs in patches which vary in size from a threepenny-piece, or even smaller (although they seldom attract attention before they have attained this), to a penny. All the hairs on a patch of ringworm look as if they had been broken off, for they are all short and all choked as it were by the excessive scurfiness which has arisen among them; for the growth of the fungus seems to cause an excessive development of the superficial cells of the skin, which are rapidly thrown

off. The patches feel thickened, and may be hotter than the rest of the head, and the child usually complains of itching of the part.

Ringworm of the scalp is generally more difficult to cure than ringworm of the body, the reason being that the fungus is more difficult to reach when remedies are applied to hairy parts. The hair must be cut as close as possible all over and round the patch. It often goes to a mother's heart to have to rob a pretty child of its flowing locks; but if she be a wise woman she will steel her heart for the trial, for we are sure that the long duration of many cases of ringworm is entirely due to the unwillingness of friends to permit the only proper and rational treatment. The hair having been removed, and the part having been moistened by the application of hot-water dressing for a time, the best remedy is to apply very carefully and thoroughly with a brush a freshly-prepared solution of sulphurous acid, which (if good) should possess the characteristic and penetrating odour of a burning sulphur match. Carbolic acid and glycerine, creosote ointment, and sulphur ointment, are also favourite remedies. During the treatment, the part should be kept perfectly clean, and the local remedies should be applied at least twice a day. The treatment of these two varieties of ringworm must not, however, be entirely local in all cases. Vegetable fungi do not grow on all soils, and the healthy skin of a child is probably quite incapable of nourishing them. Ringworm probably always shows one of two things, either that the child is out of health, or that the skin, either from dirt, neglect, or accident, has become irritable and slightly inflamed. It is necessary to attend to these points, and to give constitutional and other remedies if the child be in need of them, and to give the most scrupulous and unremitting attention to cleanliness. It is a foolish, a dangerous, and always a troublesome, practice to allow the hair of children to grow long. In this state it requires an enormous amount of attention, it is kept clean only with difficulty, and affords a dangerous lurking-place for vermin, or the seeds of fungi, which, for aught we know to the contrary, are always floating in the air ready to take root directly a fitting soil is afforded them. It is the fashion on the Continent to crop the hair of children as closely as possible, and it would be well if the custom were more general in this country. "Long hair," says Sir Garnet Wolseley in his "Soldier's Pocket Book," "is the glory of a woman, and the shame of a man." We wish it were considered a shame in little children also. In treating ringworm, we must warn the reader that after the application of the remedies, and after the death possibly of the fungus, the patch may remain red and scurfy. We must not be in too great a hurry to make fresh applications of the parasiticide unless we are sure that the patch is actually extending at the edge. The application of glycerine of borax is generally sufficient in these cases to restore the head or skin to its natural condition.

There is a pseudo ringworm of the head which is happily not very common in this country. It is due, like ordinary ringworm, to the growth of a fungus. It seldom occurs on the body, and it is very liable to cause permanent baldness of the spot which has been affected, which ordinary ringworm never does. This disease is called *favus*, and in it the head is covered with yellow crusts, which have a disagreeable fetid odour which reminds one of mice. It is a disease very difficult

to cure, and requires the same remedies as ordinary ringworm ; but, being a more serious disease, its treatment ought in all cases to be controlled by a medical man.

Ringworm of the Body may occur on any part of the face, limbs, or trunk. It is said to affect mainly the roots of the hair, like the allied disease of the head, but the hairs on the body being finer and more scantily placed, we are enabled to get a better and different view, as it were, of the phenomena of the disease. The broken hairs in ringworm of the body require to be very carefully looked for with a powerful magnifying glass. The extreme scurfiness seen in the head is replaced by a trifling roughness and scaliness of the skin, and the advancing edge of the ring, not being hidden by long hairs, becomes the most prominent feature of the disease. The red ring is usually of a dull red colour, and if it be carefully examined, it will be seen to be marked by very fine clear watery heads or vesicles, and tiny branny scales.

Those who possess a microscope may be interested to see these minute vegetable parasites which occasion so much trouble in our nurseries. It is a simple matter to do so, provided the microscope has a quarter-inch object glass. Pluck out one or two hairs from the patch, and scrape off a few of the scales with the point of a penknife. Place them on a glass slide, and add a few drops of strong solution of potash ; then cover with a covering glass, and examine. The threads of the fungus and the little round spores will then be seen within and between the scales of the skin, and within and around the roots and shafts of the hairs.

The cure of ringworm is simple in theory, but often very difficult and tedious in practice. The only thing to be done is to kill the fungus, and prevent its further growth. For ringworm of the body, the popular method of painting the patch with ink is often sufficient to effect a cure. It seems to be the salts of iron in the ink which do the good, and we may apply a concentrated solution of sulphate of iron instead of ink, which will often answer the purpose equally well. Strong acetic acid is another favourite remedy ; so also is a strong solution of borax or boracic acid. Nitrate of silver may be used, or a solution of corrosive sublimate, but the latter remedy had better not be applied except by a medical man. Carbolic acid is also a favourite and effectual remedy for these cases.

St. Vitus' Dance, or *Chorea*, is a disease which is trying alike for the patient and the friends. Its onset is generally gradual, but may be sudden. The starting-point of the disease is very often some sudden fright to which the patient has been exposed—and the remembrance of this fact, if nothing else, ought to make one very careful about playing practical jokes on young children. It is not a disease of very early infancy, but usually comes on between the ages of six and fifteen, during the second dentition, and while children are approaching the threshold of manhood or womanhood. The disease is characterised by a general unsteadiness of the muscles of the body, and this is generally well marked in the face. The face has an appearance as if a constantly-recurring wave of motion were passing over it. The eyes are unsteady, and are jerked about ; the corners of the mouth are drawn this way and that ; the cheeks and nose are constantly wrinkled ; and

the chin is alternately protruded and retracted ; while the tongue can very often be seen moving unsteadily and in a jerking manner within the mouth. The limbs, as well as the face, generally suffer, and neither arms nor legs are quiet for an instant, but the child's body is in one constant state of fidget. The degree of movement in this disease varies immensely. It may be so slight as only to be observable occasionally, and then only in a very small degree ; or it may be so excessive that the child requires to be constantly held in its bed to prevent its being jerked out upon the floor. These extreme cases are very terrible to see, and a child attacked in this way not unfrequently dies from the exhaustion caused by the excessive movement. Sometimes the choreic movement is limited to one side of the body. In average cases the child is unable to walk steadily, to sit steadily at table, and feeds itself with great difficulty. They are not to be trusted to carry any breakable articles, since their grasp is necessarily very uncertain. The movements cease during sleep, but in extreme cases the excessive amount of movement may prevent the child from getting to sleep.

There exists a curious relationship between this disease and rheumatism, and it has been very frequently observed that chorea often follows or is followed by an attack of rheumatism, or else that the families of children who suffer from chorea are very subject to rheumatic affections.

This disease is infectious ! Such a statement may seem startling, but is nevertheless true ; and it has been found again and again that if a child suffering from St. Vitus' dance be allowed to associate with its fellows, other children are very apt to become affected, and to acquire the trick of movement, as it were, by unconscious imitation. There have been genuine epidemics of this disease. The most notable, perhaps, is one which is recorded to have broken out at Strasburg in 1418, and as the sufferers made pilgrimages to the shrine of St. Vitus to obtain relief, the name of this saint has been given to the disorder. Although most common in childhood, it does occasionally make its appearance (especially in women) at more advanced periods of life, and we occasionally meet with cases of it at twenty years of age, or even at more advanced ages. It occasionally happens that disease of the heart accompanies the disorder of movement, and diligent search should be made by the medical man in charge for the detection of the heart trouble, which can only be done by means of the stethoscope.

The *treatment* of this disease is simple, and happily it subsides, as a rule, without being obliged to have recourse to any strong measures ; but occasionally it proves very obstinate, resisting every attempt to alleviate it, and in some very few instances it proves fatal by the exhaustion which it causes. The child's health must be very carefully attended to, and search must be made for any source of irritation which may help to keep up the trouble. The teeth must be looked to, the digestion must receive attention, any errors in diet must be corrected, the bowels must be regulated, and diligent search be made for any evidence of the presence of intestinal worms, which are not unfrequently a cause of this disorder. The child should have a bed to itself, and the bedroom should be airy ; but, and especially if the trouble have arisen from fright, an elder person should sleep in the same room, and a light should be burnt. The lessons need not, except in the more severe cases, be abandoned, but

they should be light and easy, and not such as will tax the child's physical or mental strength in any way. A considerable time should be spent every day in the open air, and much benefit may be derived from the daily use of a cold douche bath. This should be taken before a fire if the weather be chilly, and it is often a good plan to let the child stand in warm water and pour the cold over it. The douche should be followed by gentle frictions with a rough towel.

For the movements themselves, the best cure is some form of drilling, and such children are particularly benefited by "deportment lessons." They should be made to practise rhythmical exercises with their limbs, and if these exercises be done, as they ought to be, to the sound of well-timed music, the good results will be more marked and quicker in appearing. In the Middle Ages in Italy the bite of a certain spider—the tarantula—was supposed to give rise to a disease, doubtless of the same type as the chorea of our times, and this disease was said to be cured by the execution of a certain dance, which derived its name from the tarantula itself. We fully believe the accounts we have heard of this disorder, and we believe also that well-timed rhythmical movements are powerful in the alleviation of St. Vitus' dance.

If medicines be given, it is with one or two objects, either to improve the general health, or to calm the movement. For the former purposes, cod liver oil, iron, sulphate of zinc, quinine, arsenic, nux vomica, and strychnine have been used. Some physicians, having regard to the close and curious relationship which this disease has to rheumatism, have advised the administration of alkaline medicines, such as carbonate of potash, but such treatment is of doubtful efficacy. If the child cannot sleep, we must help it to do so by artificial means. The inhalation of a little chloroform, or the giving of a little hydrate of chloral at bedtime is of great service, as is also the bromide of potassium, or even opium or morphia in small quantities. Such dangerous remedies, however, must only be given when prescribed by a medical man. Strong narcotic drugs ought to have no place in the domestic medicine chest. Bromide of potassium and belladonna may help to subdue the movement during the daytime, and these medicines may be combined with the tonics.

Scald Head.—This is a vulgar name which is applied to two or three distinct diseases of the scalp which resemble each other superficially. It is most common among scrofulous children. It not unfrequently commences as a slight redness with little watery heads which weep. This occurs in patches, and a very favourite situation is behind the ears, whence it creeps upwards towards the scalp, and sometimes completely covers it. The proper name for this form of the complaint is *eczema of the scalp*. The watery heads, which discharge a clear sticky fluid, are the characteristic features, and the discharge running amongst the hairs glues them together, and converts the child's head into a most revolting and loathsome mass.

If the child's head be irritated by the presence of lice, we get, instead of the clear discharge from the watery heads of *eczema*, a yellow matterly discharge from pustules, and the matter discharging and drying cakes the hair into masses, and covers the scalp with a hard yellow skull-cap. This disease is known as *impetigo of the scalp*. It is particularly liable to occur in children of weak constitution, and, the children being usually scrofulous, the irritation of the inflamed scalp is sufficient to cause

considerable enlargement of the glands of the neck. This enlargement of the glands of the neck is said to be distinctive of this form of the disease, but such an assertion is scarcely warrantable. Impetigo—at least some forms of it—is contagious, and has been conveyed from one child to another by exchange of head-dresses. Care should therefore be taken to keep a child with this malady away from school, and separated from its fellows for a time.

The *treatment* of these two conditions consists, first, in removing the cause, if any such exist in a tangible form. A careful search must be made in every case for the presence of lice or nits in the head, and if such exist they must be destroyed by the application of carbolic acid and oil (one part to ten), or of white precipitate ointment. The next point in the treatment is cleanliness. The hair should be cut off, and the scalp should be thoroughly cleansed of all crusts and scabs by prolonged bathing and soaking with warm water. This being done, the head is in a fit state for the application of remedies, but it is of no use to apply remedies to heads which have not been previously cleaned. The best application for eczema is zinc ointment, which should be very gently applied to the part with the point of the finger, the head being then covered with a skull-cap made of rag or linen. For impetigo, the best application is probably the nitrate of mercury ointment, which should be applied in the same way. The head must be thoroughly and completely cleansed night and morning—and even though it take hours, it will be time well spent. It is well not to be afraid of cutting off the hair, and it is advisable to cut very wide of the disease. In cases of eczema of the scalp, it is recommended that the head should be washed with oatmeal and water instead of soap, as being less irritating.

Internal remedies and constitutional treatment must not be neglected, for it will be found that these diseases do not get well without them. In cases of impetigo, the administration of quinine often acts like a charm, and under its influence the trouble ceases at once. It is often necessary to precede the tonic treatment by a brisk purgative, and a dose of grey powder and jalap is often administered with benefit. The various remedies mentioned for the treatment of scrofula are of service in these diseases. The diet must be carefully supervised, and every precaution taken to prevent the children stuffing themselves with trash.

Scarlet Fever.—This is one of the most fatal of the diseases to which we are liable, especially in childhood, and when the disease becomes epidemic the mortality which it causes is often really terrible. It is the dreaded scourge of some families, and it is one of the well-recognised peculiarities of the disease that it falls upon some constitutions far more heavily than upon others.

The great cause of scarlet fever is contagion, and one person suffering from the disease becomes a centre of infection to others. There seem to be states of atmosphere, epidemic conditions in which the disease is more easily spread than at other times; but whenever a case of scarlet fever occurs it is generally not difficult, if diligent search be made, to point with certainty to the source from which the poison has emanated. The healthy should hold no communication with scarlet-fever patients unless they themselves have already had the disease, and have thus earned an immunity from further attacks. Those in attendance upon scarlet-fever patients

should also remember that, though they may be incapable of suffering themselves, they may readily carry the disease to others. We shall reserve further remarks on the contagion until after our discussion of the disease itself, when we shall be better able to explain whence the contagious matter comes. A person having been exposed to contagion, a contagious particle having, as it were, been sown in his body, a certain period elapses before the disease becomes manifest. This is called the *period of incubation*, and in scarlet fever it is a very variable period, its length seeming to depend not only upon the recipient but on the giver of the poison also. We often observe that, in the same soil and under the same condition, some seeds germinate sooner than others; and it is a very common observation that variations of soil, temperature, etc., are capable of causing great variation in the time which elapses between the sowing of the seed and the first appearance of the shoots. This incubative period in scarlet fever seems to vary between twenty-four hours and a week, and some say that as much as a fortnight sometimes elapses between the exposure to the fever poison, and the development of the disease.

The *symptoms* and severity of scarlet fever vary immensely. They may be so mild as scarcely to be perceptible, and may be so severe that death ensues within twenty-four hours of their first appearance. We shall first of all describe an attack of ordinary severity.

The child complains of "feeling out of sorts;" the appetite fails, and symptoms of feverishness make their appearance. There are chills alternating with flushings and a sense of heat. Headache is complained of, and very often vomiting is one of the first symptoms to attract attention. The pulse is quick, and if the temperature be taken it will be found considerably elevated. It may rise as high as 104 degrees on the first day, or nearly six degrees above the normal temperature of health. The next symptom to attract attention is the *sore throat*; and if the throat be looked at, the tonsils will be seen to be enlarged, and there is a general redness and swelling of the whole of the back of the throat. The tongue also presents a characteristic appearance. It is generally somewhat furred, and at its tip a number of fine red points will be seen showing through the white fur, giving the end of the tongue an appearance very like that of a strawberry, so that the "strawberry tongue" of scarlet fever has become one of the recognised terms of medicine. The reader must be warned, however, that this condition of tongue is common in other states besides scarlet fever, and it is impossible to distinguish scarlet fever by the appearance of the tongue alone, unless the other symptoms be present also. With these symptoms there is often some sensation of heat about the skin, and if the patient be asked to clench the hand, it will often occasion feeling of tension. Sometimes within twelve hours, and always before the lapse of forty-eight hours, after the first symptoms, the characteristic rash of scarlet fever appears. It appears first at the root of the neck and upper part of the chest. It consists of a number of fine scarlet points, and the skin looks sometimes as if it had been covered with a bright scarlet powder. These points may coalesce in places, and then we get scarlet patches. The colour varies, and may be of any shade of red; or occasionally the eruption is dusky in appearance. When the skin is pressed upon with the point of the finger, or put upon the stretch, the colour of the points fades. The rash

spreads from the chest over the face and trunk, and over the arms and legs also. It reaches its maximum degree of intensity in three or four days, and then begins to fade, and usually by the eighth or ninth day it has completely disappeared. In favourable cases the other symptoms subside with the eruption; the temperature falls, the pulse sinks to its normal rate, the tongue cleans, and the patient begins to feel tolerably well again.

At this period the skin begins to scale, or, in other words, the *desquamation of the cuticle* commences, and this may be looked upon as quite as characteristic of the disease as any of the other phenomena we have enumerated. The amount of scaling is proportional to the amount of eruption, and varies from a slight scurfiness of the skin to the downright peeling off of solid flakes, which are most pronounced usually on the soles of the feet and the palms of the hands. These are the spots where evidence of scarlet fever lingers longest, and whenever a child is seen with its palms or soles in a peeling condition, that child is to be regarded with suspicion, as it is probably infectious. The duration of the peeling period is very variable. Occasionally several weeks elapse before the skin is perfectly free from any sign of it.

About the time that the skin begins to peel, the patient is very liable to have an attack of so-called rheumatism, accompanied by swelling of the joints. The knees, elbows, and hips are usually affected. The temperature rises again, and it occasionally happens that a genuine relapse takes place, and all the phenomena of the fever are repeated. In a favourable case the peeling will have ceased and the patient will be convalescent at the end of three weeks.

All these symptoms, as we have said, vary very much in severity. There may be but little eruption, and no sore throat worth speaking of, and then the case is spoken of as one of simple scarlatina, or *scarlatina simplex*. When the throat symptoms are very bad it is called *scarlatina anginosa*, and when all the symptoms *except the eruption* are present it is spoken of as *scarlatina without eruption*; and it is important to remember that such cases are recognised as occurring. It is supposed by some that there is a difference between scarlet fever and scarlatina, and we not unfrequently hear people say that "So and so has not got scarlet fever, but only scarlatina." It is right that people should thoroughly understand that the two diseases are actually the same, although the word "scarlatina" is usually applied to the milder cases. We would impress very strongly on the reader, however, that the mildest possible cases are capable of producing by their contagion the severest cases in others, and that no matter how mild the actual fever may be, the sequelæ or consequences of that fever may be of the most serious and dangerous nature possible. This leads us on to speak of the complications and sequelæ of scarlet fever. The condition of the *throat* may be so bad from the first as almost completely to overshadow the other symptoms of the disease. The throat may be immensely swollen internally, and the tonsils may be so much enlarged as completely to block the passage of the throat, and to threaten the patient with suffocation. The throat condition may persist long after the other symptoms have subsided. There may be deep-seated inflammation all round the throat, so that the skin feels hard, tender, and puffy, like one large carbuncle surrounding the neck. Matter may be formed beneath the skin, and in bad

cases this matter may be discharged by a series of openings either inside the throat or outside. The condition of the throat may be so severe as to kill a patient, either by exhaustion or by blood-poisoning. It is not at all uncommon to have the glands of the neck inflamed and suppurating during the sore throat of scarlet fever. Sometimes the *nose* is attacked as well as the throat, and the patient is troubled with a discharge therefrom which may be very offensive. The *ear* also may be attacked, and we sometimes get a discharge from the ear followed by a destruction of the tympanum, or drum, and permanent deafness. The bones of the ear may be damaged, and then there is occasionally a risk to the brain.

The most serious and the most common consequence of scarlet fever is undoubtedly *disease of the kidneys*, which usually comes on during the decline of the fever, and while the desquamation of the cuticle is in progress. The early symptoms of this trouble are only to be detected by means of a chemical examination of the urine, which should be performed by the medical man at frequent intervals, in order that no time may be lost in checking the symptoms should they appear. If the urine becomes thick, smoky-looking, or bloody, the kidneys are certainly diseased; or if the legs swell, or the eyelids are puffed up in the morning, we shall generally be right in coming to the same conclusion. The slightest appearance of disease of the kidneys should not be treated lightly; for if this trouble be not skilfully subdued, it may go on till it causes permanent dropsy and disease of the heart, and condemns the patient to be a valetudinarian for the rest of his life.

Lung disease is occasionally set up during scarlet fever, and patients may be attacked with bronchitis, pneumonia, pleurisy, or consumption.

Sometimes also, and especially during the persistence of the rheumatic symptoms, disease of the covering membrane of the heart (*pericarditis*) is established. Thus it will be seen that scarlet fever is not only a dangerous disease in itself, but that it is beset with subsidiary dangers, into any of which the patient may fall if he be not nursed and guarded with the greatest care.

In the *treatment* of a case of scarlet fever we have not only to consider the safety of the patient himself, but we have, as far as possible, to guard against his being a source of danger to others. Directly the disease is detected, or, indeed, directly it is suspected, the patient should be isolated. Except in the very mildest cases, he must keep to his bed, and, no matter how mild the attack may be, it is absolutely necessary that he keep to his room, from whence he must not think of stirring for three weeks; for up to that time he cannot be considered as a safe companion for others, nor can he himself be considered free from the risk of kidney disease or some other consequence. Everything should be moved out of the room that is not absolutely necessary for decent comfort. The carpet should be taken up, and window curtains be taken down, and everything in the shape of a wardrobe or chest of drawers should be removed; for these articles can well be dispensed with, and if allowed to remain in the room, they may one and all become lurking-places for contagious particles. It must be borne in mind that every excretion of a scarlet-fever patient is probably infectious. The breath expired through the ulcerating throat and nose is probably loaded with germs of the disease. The urine and the evacuations from the bowels are certainly contagious in the highest degree; and above all things it is to be remembered

that every particle which flies from the roughened surface of the peeling skin is a particle with an unlimited potentiality for mischief, and being carried by the air, or in the folds of a garment, or even in a letter, may spread scarlet fever literally throughout the world. *No patient suffering from scarlet fever can be considered free from infection until the process of peeling has absolutely ceased.* While the disease is in progress, every effort should be made to reduce the dangers to a minimum. The patient should be moved to the top of the house, and the whole of the top floor, or the whole of one division of the house, should be given up to the invalid and his attendants, who should not be too numerous (the fewer the better), and who should hold no communication (or as little as possible) with the other inmates of the house. Over the door of the sick-room a curtain should be hung, and this curtain should be kept constantly moistened with carbolic acid dissolved in water (half a pint of the common acid to two gallons of water). The bedroom should be kept thoroughly aired, and in summer the windows must be liberally opened. The patient must be kept clean, and the bed and body-linen be frequently changed. The change of linen should be effected quietly, and the soiled linen, both of the nurses and the patient, should be placed in earthenware pans filled with a strong solution of carbolic acid, and provided with a cover. All excretions should be at once disinfected with carbolic acid, and thrown away immediately. All plates, dishes, and other utensils used by the patient should, when done with, be immersed in a disinfecting bath; and the walls of the room, as well as the floor and furniture, should be cleansed every day with a damp cloth. As to the patient himself, he must be kept perfectly clean. The mouth and nose must be scrupulously cleaned by means of a camel's-hair brush, or a syringe, with a weak solution of Condyl's Fluid, or salt, or a strong solution of chlorate of potash. It is a good plan also, and one highly recommended, to keep the surface of the skin constantly greased with ordinary olive oil, to which a little carbolic acid has been added. The hair should be cut short, and that which is cut off should be burnt. If the patient be old enough or well enough to enjoy reading, or being read to, it must be remembered that all his books, and, in fact, everything that cannot be washed, must be burnt, and on no account be brought out of the sick-room. When the patient is sufficiently recovered to leave his room, he should only go out wrapped in a blanket, and be put at once into a warm bath, where the whole of the body should be most carefully washed. He should then be dressed in a complete set of clean clothes, and, presumably, he may then mingle with his friends without being an object of terror to them.

The room lately occupied by the patient must next receive especial attention; and first it should be disinfected by means of sulphur fumigation. This is done in the following manner: Take an ordinary slop-pail, and half fill it with water; then across the top of it place the fire-tongs. On the tongs lay the lid of an old saucepan, and in this put half a pound or a pound of common brimstone broken into lumps. Then shut all the windows closely, place a red-hot coal in the middle of the sulphur, and immediately leave the room. Shut and lock the door, and block up any chinks which may be left in it. This manœuvre causes the escape of immense quantities of sulphurous acid gas (the gas which causes the choking sensation when we light a sulphur match, and which is probably fatal to every living

thing, both animal and vegetable, inclusive of the germs of disease). After a lapse of twenty-four hours, it will be possible to enter the room, when the windows may be opened. The room should then be thoroughly scrubbed, including the articles of furniture remaining in it. The woodwork should be re-painted, the ceiling white-washed, and the walls either papered or coloured. The bedding should be sent to an upholsterer's to be thoroughly disinfected and re-made.

If the precautions we have enumerated were attended to more scrupulously and carefully than usually is the case, we believe that we should hear less frequently of houses being infected with scarlet fever for years at a time, and remaining often tenantless because of the general belief that "it is impossible to get the scarlet fever out of it." If the attack of scarlet fever be mild, the friends are apt to forget how terrible the disease may be, and are unwilling to submit to the irksomeness of separation for a time from their friends and children.

We may mention here, that if a scarlet-fever patient be moved while the infection still be on him, and if others, not having been forewarned, suffer harm in consequence, a civil action for damages may be brought against those who have been instrumental in importing this disease into a house. Such actions have been brought, and damages have been recovered.

As regards the administration of medicines in scarlet fever, we may say at once that in favourable cases no drugs are necessary, and a child will pass successfully through a mild attack of the disease without taking a single dose of medicine. The patient must be kept quiet and cool. The diet must be exceedingly simple, and the bowels must be carefully regulated. If the throat is badly ulcerated, the ulcers may be touched, once and for all, with a stick of lunar caustic or a little strong muriatic acid. These are measures which, however, if resorted to, must be performed by the medical man. The mouth, as before mentioned, must be kept clean, and a strong solution of chlorate of potash may be used as a wash.

If the rheumatic pains in the joints supervene, there is nothing more efficacious than *quinine*, which may be given in tolerably strong doses (three or four grains) every three or four hours.

We have heard much of late years of the efficacy of belladonna in this disease, both for the cure, or as a prophylactic or preventive against contagion. The evidence in its favour, however, is not reliable, and although it has been very largely given at fever hospitals and elsewhere, the results have not been such as to warrant us in concluding that it has any specific action. Dr. Balfour, of the Royal Military Asylum, Chelsea, tried, during an epidemic of scarlatina, the preventive powers of belladonna. He selected 151 children, who had never had scarlet fever, and gave belladonna to every alternate one. The result was that *two* in each section were attacked with the fever. The number attacked was singularly small, and he very justly remarks, "Had I given the remedy to all the boys, I should probably have attributed to it the cessation of the epidemic."

Scrofula.—This is a constitutional condition which is often confounded with, but should be kept distinct from, tuberculosis. The children who manifest a tendency towards scrofula are sometimes called "strumous," and the old name of the "king's

evil" is still occasionally applied in country districts to some of the manifestations of the disease.

The children who are the victims of scrofulosis differ widely in appearance from the tubercular children. Instead of being lithe, active, and elegant, they are heavy-looking and lymphatic, with muddy complexions, thick skins, coarse straggling hair, and clumsy limbs. The tubercular children are pretty, the scrofulous children are ugly, and the rickety children are deformed. The tendencies of the scrofulous constitution are of a peculiar kind, and are quite distinct from those of the other two constitutional conditions with which it may be confounded.

There is a liability to enlargement of the lymphatic glands at slight causes, or from no obvious cause. The glands under the jaw and at the side of the neck are very liable to enlarge, and the irritation of cutting teeth or a slight cold in the throat are quite sufficient to cause great enlargement of the glands. The enlargement may only be slight, and the gland may feel like an almond or olive beneath the skin, but it may be so great as to cause the most terrible deformities, and completely obliterate the proper lines of the face, and cause the unhappy child to look terribly ugly and ghoulish. The mere enlargement of the glands is very trying both to the patient and the friends; but when the glands suppurate, as they often do, and leave scars which last a lifetime, the annoyance is increased.

Besides the enlargement of the glands, the patients are liable to *inflammation of the eyes*, which is often very difficult to cure. The edges of the eyelids get reddened and much inflamed, and little ulcers form on the eyes themselves. This causes a copious discharge from the eyes and lids, with a gluing together of the eyelids after sleep, a matting together of the eyelashes, and also a great intolerance of light.

Diseases of the skin are likewise very common among scrofulous children, and they are liable to get chafed in places where folds of skin come in contact, to suffer from watery discharges behind the ears and on other parts of the body (*eczema*), and there is a tendency also to the different varieties of scald head. (See *Scald Head*.)

They are often troubled also with discharges from the nose and ears, and the digestion is often bad from a chronic inflammatory condition of the stomach. The *joints* are often the seat of chronic inflammations, which not unfrequently endure for years, and ultimately wear the patient out with exhaustion. "White swellings" of the knee are most common in the scrofulous constitution. Diseases of the hip and ankle joints are also of frequent occurrence.

Occasionally these children die with symptoms not unlike those of acute tuberculosis (see *Tuberculosis*), and we get diarrhoea, general inflammation of the bowels accompanied by tenderness (*peritonitis*), and in some instances a deposit of tubercles may take place in the lungs or on the membranes of the brain. This, however, is rare, and when it does occur it must be regarded as a grafting of tuberculosis on the scrofulous constitution.

The *treatment* of scrofula has undergone great changes in modern times. This was the disease over which the sovereigns of England were supposed to exercise

a supernatural power, and which is thus treated of in the "Surgical Treatises" of Richard Wiseman, who was Serjeant Chyrurgeon to King Charles II., and one of the foremost surgeons of his day. After stating that the king's evil often baffles the skill of the young surgeon, Wiseman goes on to say :—

"But when upon trial he shall find the contumaciousness of the disease which frequently deludeth his best care and industry, he will find reason for acknowledging the goodness of God, who hath dealt so bountifully with this nation in giving the kings of it, at least from Edward the Confessor downwards (if not for a longer time), an extraordinary power in the miraculous cure thereof. This our chronicles have all along testified, and the personal experience of many thousands now living can witness for his Majesty that now reigneth, and his Royal father and grandfather. His Majesty that now is having exercised that faculty with wonderful success, not only here but beyond the seas in Flanders, Holland, and France itself. The King of this last pretends to a gift of the same kind, and hath often the good hap to be alone mentioned in chirurgical books as the sole possessor of it, when the French themselves are the authors, yet even they, when they are a little free, will not stick to own the Kings of England as partakers with him in that faculty. Witness the learned Tagaultius, who in his institutions takes notice of King Edward's faculty of doing the same cure, and the continuance of it in his successors. Italy as well as France hath made the like acknowledgments in the books of Polydore Virgil, who, reciting the gift given to St. Edward the Confessor, doth subjoin these words, 'Which immortal gift hath been derived as it were by an hereditary right to the latter kings; for the Kings of England even now do cure the struma by touch, etc.'"

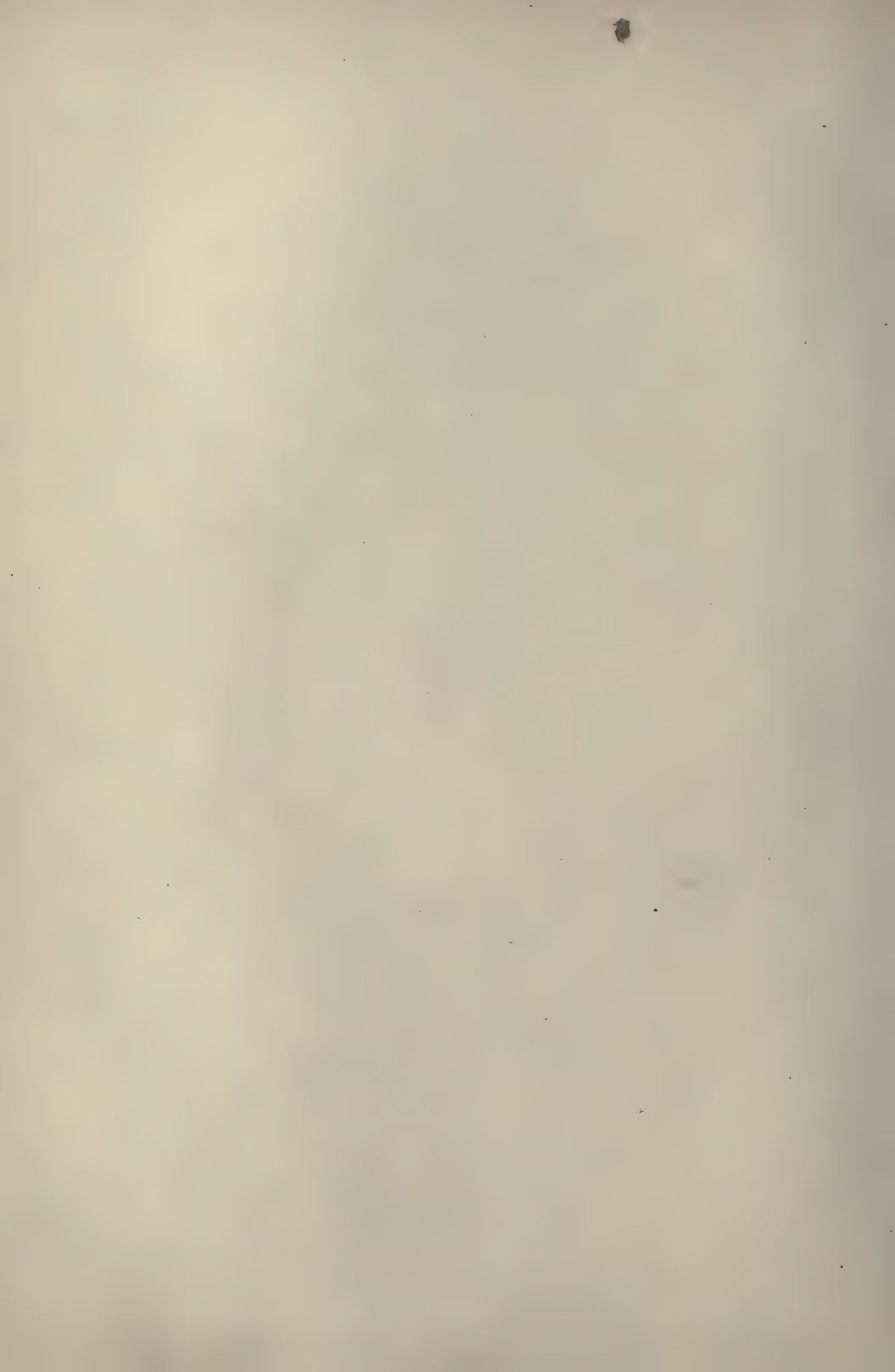
After alluding to and controverting the assertion that had been made by certain Roman Catholic divines that this miraculous power departed from the sovereigns of England at the Reformation, Wiseman goes on to say, "But it is not my business to enter into divinity controversies: all that I pretend to is—first, the attestation of the miracles; and, secondly, a direction for such as have not the opportunity of receiving the benefit of that stupendious power. The former of these, one would think, should need no other proof than the great concourse of strumous persons to Whitehall, and the success that they find in it. I myself have been a frequent eye-witness of many hundreds of cures performed by his Majesty's touch alone, without any assistance of chirurgery; and those many of them such as had tired out the endeavours of able chirurgeons before they came thither. It were endless to recite what I myself have seen, and what I have received acknowledgments of by letter, not only from the several parts of this nation, but also from Ireland, Scotland, Jersey, and Guernsey. It is needless also to remember what miracles of this nature were performed by the very blood of his late Majesty of blessed memory, after whose decollation by the inhumane barbarity of the regicides, the reliques of that were gathered on chips, and in handkerchiefs, by the pious devotees, who could not but think so great a suffering in so honourable and pious a cause would be attended by an extraordinary assistance of God, and some more than ordinary miracles; nor did their faith deceive them in this point, there being so many hundred that found the benefit of it. If this dead blood were accompanied by



BONES OF ARM.

A. Right humerus, anterior view.

C. Right radius, anterior view.



so much virtue, what shall we say of his living image, the inheritor of his cause and kingdom? whom though it hath pleased God to deliver out of those dangers that overwhelmed his royal father, yet it was with so long an exercise of afflictions, that though (God be thanked!) he be not now like to encrease the catalogue of martyrs, yet he may well be added to the number of confessors. This we are sure, the miracle is not ceased."

On reading this, it is hard to acquit Wiseman of being as skilful in the arts of a courtier as he undoubtedly was in those of a surgeon, and one cannot but smile at the many excuses to his majesty ("who cureth more in one year than all the chirurgions of London have done in an age") which he feels it incumbent upon him to make before entering on the details of treatment which are recommended in those cases which cannot receive the benefit of the royal touch.

But the reader will have had enough of Wiseman, and will be glad to hear some more modern views on the treatment of scrofula. The great point is to guard against the several consequences of the constitutional condition. The child must be kept from all irritations, and especially it must be properly fed, and must spend a great part of its time in the open. The skin must be kept very scrupulously clean, for any impurity of it may cause, not only troublesome sores and eruptions, but glandular enlargements also. The inflamed joints must be carefully attended to by a surgeon, as neglect of them may lead to stiffening of the limbs, or distortion, or permanent lameness. Glandular enlargements, until they suppurate, are best treated by hot fomentations, but when suppuration has taken place, it is impossible to lay down any rules for treatment, which must depend on the varying conditions which a practised eye can alone recognise. The eyes, if they become inflamed, must be kept scrupulously clean, and every particle of discharge must be removed night and morning by careful and prolonged fomentation. The eyelids may be prevented from adhering by anointing them with some simple ointment, such as cold cream. The strong mercurial ointments are not to be used, except by medical advice. There is great intolerance of light in these cases, and it is sometimes customary to keep children indoors, and in darkened rooms. This is rarely necessary, however, and we should advise the child being provided with a shade, and a good thick veil, and being taken out of doors whenever it is possible to do so. The application of blisters behind the ears, and still more the employment of a seton, is a measure which is necessary only in the very rarest cases, and would only be warrantable on the recommendation of a skilled oculist. When ulceration of the eyes takes place, there is always some risk of permanent impairment of vision, so that the child, in these cases, ought to have the advantage of early advice.

There are several drugs which may be given to scrofulous children with advantage. They are, perhaps, the patients who are most benefited by *cod-liver oil*, and they often take it with avidity, and thrive wonderfully upon it. *Iodine* in all its forms is of great benefit, and may be given combined with potash or iron, in the form of iodide of potassium, or syrup of the iodide of iron. *Sulphur*, too, is often of signal service, and should be given in the form of sulphide of potassium, otherwise known as the *Hepar sulphuris*, or liver of sulphur. This salt has an offensive odour of rotten eggs, and is suggestive of the famous sulphur waters of

Harrogate. A grain, or even two, of the salt may be dissolved in a small quantity of water, and given twice or thrice a day. Great care must be taken that the odour of the salt has not evaporated. The taste is not so nauseous as the smell, and if the nose be held, children will take it without difficulty. Glandular swellings often disappear rapidly under this treatment.

Change of air is often indispensable, and the east coast of England has acquired a deserved reputation for the cure of these cases. Margate, and the other towns in that neighbourhood, are much frequented by scrofulous children; and the Royal Sea Bathing Infirmary at Margate has conferred a great boon upon necessitous sufferers from scrofula.

Sore Throat and Cold.—These conditions are often combined, and it may be said that those forms of sore throat which accompany an ordinary cold, are seldom of a severe character. Added to the running at the eyes and nose, there is often huskiness and dryness of the throat, and some difficulty of swallowing; and if the throat be inspected, it will be seen to be somewhat swollen and reddened. This condition generally subsides with the cold, and proves to be only a passing trouble, and the treatment for the cold is sufficient to cure the throat. If, after the subsidence of the cold the throat remains sore, and especially if the child spits up or coughs up any streaks of blood, it may be a question whether the throat has not drifted into a condition of chronic inflammation, and it may be laid down as a rule, that any persistent condition of sore throat, hoarseness, or huskiness, is one which should receive careful professional attention. Although sore throat and cold are sometimes combined, they more often occur separately, so that it will be well to discuss the two questions *separatim*.

Sore Throat is a symptom of many and various conditions. Thus we have the sore throat due to cold; acute enlargement of the tonsils with or without the formation of abscesses, constituting the condition known as *tonsillitis*, or quinsy; and chronic enlargement of the tonsils without inflammation, which is a common occurrence in weakly or scrofulous children. Sore throat is also often the first symptom of many dangerous conditions, such as croup, diphtheria, and scarlet fever, and it is generally a prominent symptom in measles, German measles, small-pox, and other fevers.

It becomes necessary, therefore, to be able to distinguish between these various conditions, and in order to do so one must know what is to be seen and what is to be looked for in the throat itself. When the mouth is opened we usually see the arches of the teeth, the roof of the mouth, and the tongue, the two latter meeting and obstructing any further view. If the tongue be depressed by means of a tongue-depressor or the handle of a spoon, and if, as we depress the tongue, we ask the patient to take a full breath we are enabled to see the throat itself. Stretching across the back of the throat is the curtain of the soft palate, from the middle of which there hangs the uvula, a fleshy pendulous body, about a quarter of an inch long. On either side the soft palate is seen to split, as it were, into two parts, by which it is attached to the sides of the mouth. These two parts, called the anterior and posterior "pillars of the fauces," include between them the *tonsil*, a body the size of a hazelnut, with a slightly dimpled surface. The arrangement of the parts may be compared

to that seen in the roof of a Gothic church, where the groinings from the windows on either side meet in a central boss or pendant. The central boss is the uvula, the windows are the tonsils, and the groinings are the pillars of the fauces uniting to form the lower edge of the soft palate. The normal colour of these parts is a pink, like that seen in the lips. In a really bad case of sore throat the amount of swelling of the parts may be enormous. The tonsils may be as big as Tangerine oranges, the soft palate swollen and thickened, and the uvula enlarged to the size of the little finger, and dropsical. The colour of the parts is either livid or bright scarlet, and the amount of tenacious secretion may be considerable. In cases of extreme swelling of the throat, swallowing is impossible, or is a matter of great pain and difficulty, and occasionally the respiration is very seriously interfered with. This condition of throat is most commonly seen in ordinary quinsy, but it occurs also in scarlet fever and some other forms of blood poisoning. A patient in this condition can never be considered as free from danger, and skilled and constant assistance should be at hand. The best treatment is, in the first place, to clear out the bowels by a brisk purgative (two or three grains of calomel, followed in four hours by a "black draught"), to allow the patient to inhale the steam of boiling water almost constantly, and to apply hot poultices and fomentations to the outside of the neck, which must be changed at frequent intervals. Nourishing soups and hot milk must be given, and the patient should remain in bed. Some practitioners order small doses of aconite (a drop of the tincture every hour), but the present writer cannot say that he has ever seen any reason to suspect that any benefit has resulted from the practice, although he has made use of it very many times. If an abscess form in the tonsils, it is better to allow it to burst spontaneously than to cut into it. There are exceptions to this rule, however, which the practitioner in attendance would recognise. The sore throat of scarlet fever cannot be accurately recognised, but its *sudden occurrence* and *bright scarlet appearance* are the facts which generally arouse suspicion. The appearance of the scarlet fever rash soon decides the question.

Diphtheria is known by the growth of a false membrane, closely resembling a piece of wet wash-leather, which begins at one point and spreads, usually equally in all directions. It is important not to mistake the natural secretion of the tonsils for the diphtheritic membrane. The tonsillar secretion appears on the tonsil itself, and is usually scattered over its surface in a series of points.

The facts which show a sore throat to be serious, if not dangerous, are—(1) great swelling of the throat itself, with obstruction to swallowing and breathing; (2) a scarlet appearance of the throat; (3) the growth of false membrane; and (4) grave constitutional symptoms: great weakness and prostration; a weak, feeble, and quick pulse; headache, shivering, and any undue elevation of temperature, or the appearance of any of the fever-rashes. Any of these symptoms would tend to show that the sore throat has passed the bounds of the trifling ailment which we include under that name. Enlargement of the glands of the neck is an indication of severity. If the breath be horribly offensive, or the patient expectorate blood or matter, this would show that the discharges are becoming decomposed. For the description of the various forms of sore throat, we must refer the reader to the articles on diphtheria, scarlet fever, and enlargement of tonsils, measles, &c. Sore throat is one of those diseases which is

very apt to recur, and it is all important that the throats of persons liable to them should not be rendered delicate by any undue coddling. The throat should be washed with cold water, which should also be used as a gargle. Some good is also got by painting the throat with the glycerine of tannin, or some other astringent. When a sore throat, of the quinsy type, runs through a family, there is always reason to suspect that the patients have been exposed to some foul emanation, usually from the sewers, and the house should undergo a very thorough examination, with a view to the determination of this point. Sore throat is very common among those who work in hospitals, and especially those who are called upon to dress foul wounds, and whenever similar throats occur in private life, it should always arouse the suspicion that miasms of a similar kind have found their way into the dwelling.

Cold.—A cold, or catarrh, is, in our climate, one of the commonest of human ailments, and young and old seem almost equally susceptible to this mild form of disease. The parts affected are the mucous membranes, or soft linings of the air-passages, the mouth, throat, stomach, intestines, and eyes. Sometimes one and sometimes another of these mucous membranes is the part seized upon, and we hear of people having a cold in their eyes, nose, throat, windpipe, or bowels. A "cold in the head" is the name given to a catarrh affecting the "frontal sinuses"—two air-chambers lined with mucous membrane, which are situated in the thickness of the skull just above the eyebrows, and communicate with the nose. The symptoms of a cold are too well known to need any description. There is often a slight feeling of "creepiness" or chilliness, and a feeling of dislike for cold. There follows a sensation of dryness and fulness of the part affected. The nose gets "stopped up;" the voice gets husky; the eyes feel tense; and the frontal sinuses are the seat of oppression, which often takes the form of headache. With this there is often a feeling of general malaises, and sometimes a rise of temperature, and a slight increase in the frequency of the pulse. The urine also becomes scanty and high coloured, and the patient, in fact, is thrown into a state of mild fever. To this stage, the actual condition of catarrh (Anglicè, "a flowing down") quickly succeeds. The mucous membranes, which previously were dry and swollen, begin to run with moisture, which at first is clear and limpid, and then becomes thicker and more tenacious, and of a yellow colour. At this time evidence is got as to which way the cold is going to travel. If it is limited to the nose, constant violent sneezing, and an unceasing necessity for the pocket-handkerchief is the chief symptom. Any increase of hoarseness, or any tendency to cough, may indicate that the catarrh has reached the windpipe and bronchial tubes, while a loss of appetite, a furred tongue, and possibly diarrhoea, may show that the digestive mucous membrane of the stomach and bowels has been attacked. These symptoms subside usually in a few days, and the patient is in his usual health.

Among the causes of "cold," the chief is exposure. A sudden chill or a prolonged exposure to a draught of cold air is usually sufficient. The most potent cause, perhaps, is a sudden transition from a *hot and foul* atmosphere to a cold one; and probably more colds are caught by coming from an over-crowded church or theatre into the chilly night air than in any other way. People in robust health do not

catch cold, and any derangement of the health (even a passing fit of mild indigestion) seems to lay one open to the evil effects of chills. A tendency to catch cold indicates a "weakness," and diligent search should be made for any indication of a tubercular constitution in such cases. It has been very much debated, as to whether or no a common cold is contagious or infectious. When we hear people say that "a cold has been running through the family," or that one child has caught it from another, the usual explanation is that the family has been exposed to a common cause. Nevertheless, there can be no doubt that there are colds and colds, and while we have no belief in the contagiousness of the ordinary cold in the head, we do not feel inclined to speak so positively about the more severe forms of feverish cold which are accompanied by high temperature and herpetic eruption round the mouth. It is a good rule, we think, not to allow a child with a cold to sleep in the same bed with another child.

If a child has not had measles, the symptoms of a cold, especially if the eyes be unduly attacked, are, it must be remembered, the commonest first symptoms of that disease. The appearance of the eruption will soon decide the question. The *treatment* of a cold consists mainly in the protection of the patient from any further chill, and so preventing the untoward accident of "catching a cold upon a cold," which often leads to severe and prolonged disease of the lungs or other organs. Keep the child warm. If the weather be cold, it should be confined to the house, or even, if the attack be severe, to its own room or its own bed. Take care that the functions of the body are all properly performed, and that the diet is light and digestible. For the rest, encourage perspiration. This is the cardinal point in the treatment of a cold. Let the patient wear flannel in bed, and have some extra clothing and a hot-water bottle if necessary. A warm drink at night of hot gruel, or white-wine whey, or treacle posset with the addition of from ten drops to half a teaspoonful of sweet spirits of nitre, will very much increase the action of the skin, and very soon after falling asleep, the patient will burst into a profuse perspiration. When this is attained, the cure is half wrought; but it not unfrequently happens that, owing to want of thought, the patient is allowed to relapse again. It hardly need be said that after such violent action of the skin the susceptibility to chill is enormously increased, and great care is required that when the patient leaves his bed he should be kept thoroughly warm. A fire must be lighted in the bed-room, and the toilet be performed directly in front of it, a screen being drawn round as a further protection. It is advisable also that some food should be given before "getting up" and going through the process of dressing. These latter points are all important, and if they be not attended to it would be wiser not to give the hot drinks, &c., which encourage the profuse action of the skin. The "specifics" and "certain cures" for colds are without number. Spirit of camphor is habitually used by many, and we see no harm in giving a few drops on a knob of sugar. "Alkaram" is a patent medicine, and is said by many to be effectual in stopping the flow from the nostrils. A snuff composed of bismuth, gum acacia, and a little morphia, will also check the secretion from the nose; but no preparation containing morphia or opium is to be thought of for young children. Take care that the bedroom is well ventilated, for we are convinced that many children as well as adults

owe their susceptibility to cold to sleeping in stuffy rooms. The occurrence of diarrhoea, cough, great hoarseness, or other untoward symptom, should be a signal for professional advice, for it must be borne in mind that many severe illnesses of children "begin with a cold." The best preventives for colds are fresh air, exercise, warm flannel clothing, and well-ventilated rooms. The practice of cold bathing is also highly advantageous, but it is on no account to be pushed too far. The bath must generally "have the chill off," and it should always be given before the fire. If the child fail to get its "reaction" and warm glow after it, it should be discontinued. A child who is liable to cold often requires tonics, and cod-liver oil and steel wine, those never-failing friends of sickly children, should be administered.

Spinal Disease.—This is one of the occasional ailments of childhood against which every parent should be on his guard. When attacked, the child attempts by every means in its power to save the spine from the weight of the head. It walks slowly and with fear, and seeks all the aid it can get from furniture, &c., and may be seen creeping from one part of a room to another, clinging to the rim of a table, or nervously shifting from one chair to the next. There is often pain in the stomach and a catching of the respiration, and this, if combined with any tenderness of the spine or any prominence of the bones, should at once arouse suspicion, and cause the calling of professional advice. Spinal disease occurs chiefly in sickly children of a tuberculous or scrofulous constitution. It ends, if not properly attended to, in ulceration of the bones of the spine, hopeless deformity, exhausting abscesses, and death. It is one of those diseases which is entirely beyond the range of domestic medicine, and we merely mention it that those who have the care of children may have a knowledge of its existence. It is sometimes caused by accident, such as a fall or blow, but depends usually more upon constitutional than accidental conditions. The only treatment is to call in a surgeon, and if one be not readily accessible, to keep the child in bed until the necessary advice is forthcoming.

Hip Disease is a disease of early childhood to which the scrofulous and the sickly are peculiarly liable. It is very necessary to be on one's guard against it. The child limps and goes tenderly on one leg. The leg of which the hip-joint is diseased has usually the thigh slightly bent forward, the knee bent a little, and the toe turned inward. There is often pain in the hip, but quite as often or more often, perhaps, the child complains of pain in the knee, and it is very important to remember that *pain in the knee may be the most prominent sign of commencing disease of the hip*. In the early stages the disease can be successfully cured, but if allowed to go without treatment, it ends in destruction of the hip-joint, abscesses which may burrow both internally and around the joint, and the death of the child after a painful and lingering illness. The treatment of this disease is beyond the scope of non-professional persons. The advice of a surgeon (not a spinal or bone specialist, nor an orthopædic blacksmith) should be sought, and the case be left entirely to his skilled treatment.

Stammering.—There is nothing more likely to interfere with the worldly advancement of a child than stammering, and consequently no effort should be spared to check it directly a child shows any tendency towards unsteady utterance.

It is one of those disorders which is engendered by imitation and example, and it is therefore of the greatest consequence to remove children away from any chance of their picking up so dangerous a habit (for it is more a habit than a disease), and one which it is so difficult to shake off when acquired. Stammering is rarely congenital, it is almost always acquired, and very often comes on while the child's general health is weakened by some of the common diseases of childhood. It is not necessary to describe so common a complaint. It is due to unsteady action—a sort of chorea—of some of the muscles used in vocalisation or articulation (more often the latter, however), and it is generally found that while mere sound is produced without difficulty, articulate speech is impeded to a greater or less extent. Careful examination may enable one to determine where the failing exists, and by making the child repeat slowly the letters of the alphabet, we may find that some letters occasion a greater difficulty than others. These are generally the labial sounds, such as P and B, but occasionally the fault is greatest with other sounds. Stammering in many cases is a mere passing trouble, and exists only during some temporary impairment of health, and when the child gets strong, its stammering disappears. These children are sometimes nervous and shy, and their trouble is often much aggravated if general attention be directed to them. To cure stammering, the first thing is to gain the child's confidence. One must appear not to notice the trouble, treat the child with great kindness, descend to its intellectual level, and encourage it in a friendly way to talk. Very much may be done by exercising the voice, and if the child can sing, or has any taste for music, it should be encouraged in every way, for stammerers can always sing without hesitation, and if this fact becomes plain to the child, the moral effect of such a discovery cannot be over-estimated. Not only can stammerers sing, but they can invariably talk if they alter the pitch or the rhythm of the voice, and they should be encouraged to learn by heart pieces of poetry, which they should recite with great care. Never allow a child to "haggle" over a word. If its utterance is checked, bid it stop at once, give up all effort, and begin again at the beginning. Recitation ought to be part of the education of every child. A proper command of the voice is only acquired by practice, even by those who have great natural aptitude for oratory, and the systematic rhythmical exercise of the voice of stammerers must be regularly persevered in for months. Perseverance will be rewarded by success in a very large number of cases. If the child fail with some sounds more than others, it should practise those sounds with diligence. If, for example, P be its stumbling-block, it should be encouraged, by a small reward, to repeat, very slowly, very distinctly, and without faltering, some lines in which this letter recurs often, as in the well-known nursery adage—

"Peter Piper picked a peck of pepper," &c.

Strophulus. (See *Red Gum*.)

Teeth. (See *Dentition*.)

Thrush.—This is a very common disease, especially among the poor, with whom every child is expected to pass through its attack of thrush almost as a matter of course. The disease is due to inflammation of the lining membrane of the mouth,

which generally goes on to the production of ulcers, and on the inflamed ulcers there come white patches, which are due to the growth of a fungus, a white mould, in fact, known as the *Oidium albicans*. It is highly probable that the inflamed and ulcerated condition of the mouth is prior to the growth of the fungus; but it also seems probable that this fungus, directly it has begun to grow, helps to keep up the inflamed condition, so that the two elements of this disease lean upon each other, as it were, for mutual support. If a little of the white patch be placed under the microscope, the fungus may be clearly seen, and those who possess a microscope may be interested in looking at it. Place a little particle of the white substance on a glass slide, place upon it a drop of solution of potash, and then cover with a covering glass. The fungus, when magnified by a quarter-inch object-glass, looks like a number of branching threads. The ulceration and fungous growth sometimes travel through the intestines, and the child is often, in fact, usually, troubled with diarrhoea, and sometimes inflammation round the lower opening of the bowel. When this occurs, the thrush is said to have "passed through." During an attack of thrush, the health of the child usually deteriorates very much, and occasionally even children die of the exhaustion caused by the diarrhoea. Strong children ought not to have thrush, and whenever the disease breaks out it is a sign of something wrong, either in the child itself, or else in its management. If children were kept as scrupulously clean as they ought to be, we should undoubtedly hear less of this disease. In the majority of cases it arises from injudicious feeding. A child with thrush should be fed entirely on milk, and if it be a year old, or upwards, a little beef tea may be added. If it is being fed on any of the numerous patent farinaceous foods, they should be discontinued for a time. If fed by hand, care must be taken that the feeding-bottle is clean, and that no particles of sour milk are clinging about the lips and stopper or the tube, as is too frequently the case. If the child is being suckled, the mother's breast should receive attention, to be sure that it is in a fit state for such a purpose. A little lime water should be added to the child's milk if the diarrhoea is very severe—in the proportion of two table-spoonfuls to half a pint of milk. If this should fail to arrest the diarrhoea, it is often advisable to give a little chalk mixture—a tea-spoonful three or four times a day. The child must be kept scrupulously clean, and its mouth must be washed after every meal, and all particles of milk must be removed by means of a camel's hair brush. The best application for the destruction of the fungus is a solution of sulphite of soda, or a very weak solution of carbolic acid—one part of acid to sixty of water. The fungus being destroyed, the ulcerations will heal, and the inflammation subside; but the application of glycerine of borax, or borax and honey, is often of very great service. It occasionally happens that older people have thrush, and we sometimes see, during the course of severe fevers, when patients are too weak to cleanse their mouths properly, a growth of the *oidium albicans* on the mucous membrane of the mouth. The same thing occurs, too, towards the termination of chronic complaints of long standing; but whenever it occurs, it may always be taken to indicate that the patient is in a state of very great weakness.

Tonsils, Enlargement of—Sickly children, especially if they be scrofulous, and

many children also who are not otherwise out of health, suffer from great enlargement of the tonsils—the two almond-like lumps which are seen at the back of the mouth. Children who have large tonsils usually snore; and if a child snores, its mouth should always be examined. The tonsils may swell up to five or six times their natural size, and may, in fact, become so large as to seriously interfere with respiration. The tonsils may become acutely enlarged in many conditions, as, for example, inflammation of the tonsils themselves (or quinsy), scarlet fever, and diphtheria. Having been enlarged from any of these causes, they are slow to return to their natural size.

The *treatment* of enlarged tonsils must be both constitutional and local, and in many cases the constitutional treatment alone (consisting of the administration of good wholesome food, tonic medicines, cod liver oil, and syrup of the iodide of iron) will be found sufficient to effect a cure. If, however, they remain obstinately enlarged, and seriously interfere with the child's comfort, they had better be removed, a question which will have to be decided by a surgeon.

Tuberculosis.—The tendency to this constitutional disease must be looked upon as the weakness, *par excellence*, of the whole of the inhabitants of Northern Europe. It is the form of constitution in which we find *phthisis*, or consumption of the lungs, occurring; in which children are liable to be attacked with inflammation of the membranes of their brains; and in which, if the disease fly to the glands of the abdomen, we get marasmus or wasting from mesenteric disease. It is distinctly hereditary, and we find the disease “cropping up” in its various forms in the different generations of a family, and among the different members of the same generation. Thus, when we hear of two or three members of a family dying of consumption, we shall very often, on inquiry, learn that others have died in infancy of diarrhœa (which may have been due to tubercles in the intestine), or marasmus, or atrophy (tubercle of mesenteric glands), or symptoms referable to the brain (tubercle of the membranes of the brain). There is no fact more clearly established than that tuberculosis is hereditary; a fact which has been proved with regard to the lower animals as well as man. Those, therefore, who, having shown symptoms of this disease, persist in marrying, do so at the risk of having children who may inherit from them disease instead of health.

With regard to the causes which seem to help in the production of tuberculosis, certainly in those who are, and probably also in those who are not, predisposed to it by inheritance, we may mention, first, *overcrowding*, for certainly this disease is most common among those who work in crowded, ill-ventilated workshops, and who sleep in overcrowded apartments—as is too often the case among the poor. Secondly, we may mention that a damp, ill-drained soil seems to predispose to tuberculosis, or at least to that form of it which attacks the lungs; for Dr. George Buchanan, one of the medical inspectors of the Local Government Board, has clearly shown that since the effectual draining of certain towns, the number of deaths from phthisis in them has materially decreased. Thirdly, we may mention as a probable source of tuberculosis any irritation which may persist in the body of an individual. Thus, if bronchitis, or what only seems to be a common cold, be allowed to go on unchecked, the glands of the chest become irritated and inflamed, and when this is the case, the risk of general

tuberculosis being set up from these infecting centres seems to be very much increased. Irritations of all kinds are apt to cause glandular enlargements, and a glandular enlargement once set up (in the lungs, bowels, or elsewhere) in a person predisposed to tuberculosis, the risk of that predisposition being confirmed is very greatly increased. This mention of glandular enlargements must not lead the reader to confound the tuberculous with the scrofulous constitution. The two conditions differ widely, as he will see if he turns to the article on scrofula.

Tuberculosis is characterised by the presence of "tubercles" in the body, and to the uninitiated it is no easy matter to convey a notion as to what tubercles are. They are little white particles, insignificant in size and appearance; but wherever they are inflammation is apt to occur, and it is this tendency to chronic inflammation in tissues which are the seat of tubercles which constitutes the danger of the condition. The most common positions for tubercles are (as we have said) the intestines and their glands, the lungs, and the brain.

Children who are prone to tuberculosis are generally pretty. They are slim, fair-haired, with lithe active figures, delicately-formed limbs, slender chests and waists, blue eyes and clear red and white complexions. They are the favourite little heroes and heroines of the novelists, who appear like fairies to gladden the hearts of parents and friends for a short season; whom the gods love, and who die young. They are intelligent, quick, and volatile, and are a source of pride to their mothers and nurses.

The onset of tuberculosis may be sudden or gradual. When sudden, it very closely resembles an attack of fever. The child is probably convalescent after one of the diseases of childhood—measles, whooping cough, chicken pox, or scarlet fever—when its convalescence seems arrested. It becomes languid, irritable, peevish, dull, and heavy. It neglects its playthings, and its appetite fails. Then it becomes, feverish, has a dry skin, and complains of thirst. The cheeks are flushed, or are alternately flushed and pale. The eyes are bright and glistening, the pulse is quick, and the temperature (as measured by a thermometer) rises considerably. The lips are dry, and the edges of the nostrils also are inflamed, and the child picks them and makes them sore. The loss of flesh is rapid—rapid in proportion to the rise of temperature; and, in fact, the state of fever and the increasing wasting are often the main features of the condition. The child may die, worn out by its persistent febrile condition, but this is rarely the case, and usually the disease terminates by determining, as it were, to one or other of the organs which are prone to be attacked.

If the lungs are attacked, the child coughs, and sometimes coughs up a little blood, which is always a serious symptom. Sometimes it coughs up a little matter from the lungs, but this is not often the case, and it should be borne in mind that children may have, and often do have, very serious disease of their lungs without coughing up anything at all. We have known the lungs of children almost completely ulcerated away, and yet the little patient has never raised any matter by coughing during life. One may often hear the rattling and wheezing within the chest, and sometimes the wheezing may be felt when the child is taken in the arms, but the certain determination of the amount and character of the disease in the lungs is only to be made by a practised ear, aided by a stethoscope. This

condition of the lungs is exactly comparable to "consumption" in the adult, and is usually tolerably rapid in its course.

If the bowels are the parts mainly attacked, we have, in addition to the symptoms attributable to the constitutional state, special symptoms referable to the intestines, the liver, the mesenteric glands, and other organs of the abdomen, as the kidneys and spleen. When tubercular disease attacks the lining coat of the bowels, it causes extensive ulceration of them, and round the ulcerations the bowel gets inflamed. As a result of this, the child complains of pain, usually little twistings and gripings, which elicit slight expressions of pain, and are then forgotten. The condition of the bowels is variable, but usually diarrhœa is a marked symptom, and sometimes this diarrhœa is so profuse as to rapidly exhaust the patient. These cases of tuberculosis accompanied by diarrhœa are often mistaken for typhoid fever; and, indeed, the two diseases are often so alike that even the most practised eye is unable to distinguish them. Alternating with the diarrhœa we get periods of constipation occasionally. The motions are usually of a pale yellow colour, and offensive, and contain sometimes a little blood. The abdomen of the child may be normal in appearance, and not the least tender; but if the ulceration should cause, as it occasionally does, general inflammation of the cavity of the abdomen (*peritonitis*), the symptoms are very different. The abdomen becomes tender to the touch, and is usually blown up with wind. The peritonitis in these cases, however, runs a gradual and not a rapid course as a rule.

If the kidneys are attacked, which is by no means uncommon, we get a little tenderness in one or both loins. The child complains of pain, and the urine is occasionally, when passed, thick with the matter which has been discharged by the damaged organs.

When the disease attacks the head we are confronted with one of the most terrible of the diseases to which children are liable, and which is known technically as *tubercular meningitis*—known also as acute hydrocephalus, but to be carefully distinguished from chronic hydrocephalus, or water on the brain (*which see*). Before describing the symptoms of this disease, we would remind the reader that it often happens that the local disease in tuberculosis precedes the general condition, and the symptoms of the one are frequently the cause of our distinguishing the other. Thus the symptoms of tubercular meningitis may make their appearance in a healthy child, as may also the symptoms of tuberculous disease of the lungs or bowels. The child complains of its head. It stops suddenly, perhaps in its play, cries out, "Oh, my head!" and then resumes its game. Any child complaining of its head should be carefully watched, and should have the advantage of medical supervision for a time. The headache varies in severity from a trifling pain to agony. The child avoids the light, and prefers the blinds down, and turns its head from a glass. The face is alternately flushed and pale, and if the fontanel (the opening between the bones on the crown of the head) be open, it will be found to be prominent and not depressed. The appetite fails, the bowels are usually confined, and the child is troubled by *persistent vomiting*. This is a very characteristic symptom, and whenever a child vomits persistently, and without adequate cause referable to the stomach, one must always be uneasy lest it be the premonitory

symptom of tubercular meningitis. The surface of the abdomen is flat and pinched in. The pulse is rapid at first, but when the child gets drowsy and dull it usually becomes slow. After the child has been ill a week or ten days, and sometimes earlier, the head symptoms are more marked. There may be attacks of convulsions, and occasionally the child has a habit of sighing deeply. Then wandering comes on, and drowsiness makes its appearance, and gradually deepens into coma. The child may squint, or one eyelid may droop, or one or both pupils may become enormously dilated. Sometimes there is paralysis of one side of the body. Death occurs in these cases either from the general weakness, or in a fit of convulsions, or by a deepening of the insensibility.

The duration of this disease varies a good deal, and this seems to depend on whether or not it appears at the beginning or the close of a general attack of tuberculosis. It rarely lasts more than six weeks or a couple of months, and is sometimes fatal within a week of the first appearance of the symptoms.

We have purposely included in our description of the general disease known as tuberculosis a detailed enumeration of the symptoms of the chief local manifestations, because we thought that by so doing we should be able to give a better general idea of what is meant by a "constitutional tendency," and of the consequences which may result therefrom. This method of treating the subject, too, has this advantage, that the remarks which we purpose making on *treatment* will appear more coherent and more rational than would otherwise be the case.

In discussing the *treatment* of tuberculosis, then, it will be necessary to bear in mind its causes and its consequences, and it will be found that the former may not unfrequently be prevented, and the latter averted. First and foremost, then, we would impress upon our readers that tubercular people before marriage should be made well aware of the possible consequences of the step. They should take the best advice before doing so, and, although the blindness of love is a fact which nobody can doubt, they should be advised not to select as their partners for life those who are prone to the same constitutional conditions as themselves. If a child have the tubercular appearance, and come of a tubercular stock, we may still do much to ward off that which threatens it, and if the remarks we have made about over-crowding and damp soils be borne in mind, and if the circumstances of the parents are such as to allow of a choice in such matters, they will be particularly careful not to allow it to run the risk of sleeping in a close bedroom, of working in an over-crowded schoolroom, or of living in a damp cold situation.

These children require more than ordinary care during and after their children's diseases, for these periods, which are trying to all children, are often fatal to the tubercular. As long as a child who inherits tuberculosis be kept in perfect health, it may escape its inheritance, but if, through want of proper supervision, its health fails, it is at once laid open to the attacks of its acknowledged enemy, and if any organ become diseased it may prove the centre and starting-point of the constitutional disorder. Any irritation or undue excitement of any part may determine the tuberculous change in that part. Many a child has had its tubercular meningitis started by the carelessness of its nurse, who has neglected to properly protect the child from the heat of the sun. Or, again, we believe that the eternal worrying

of children by some unwise parents brings about the same result. The tuberculous children are generally forward, and they begin to take notice and to prattle earlier than others. This being the case, their brains are never allowed a moment's peace, and incessantly during its waking hours it is made to "take notice" of this, that, and the other, to answer stupid questions, and repeat stupid rhymes. All this to so young a child is *mental labour*, and this mental labour often, we believe, is answerable for the induction of tubercular disease of the brain, and the premature death of the child.

Again, undue exposure to cold or insufficient clothing may bring on bronchitis, and bronchitis in these constitutions will almost certainly determine tubercular disease of the lungs. Children are often insufficiently clothed, and when they begin to run about their dresses not unfrequently begin so low down and end so high up that the chest and legs are left practically bare. We grant that children thus dressed look uncommonly pretty, and we are ready to admit that this costume is adopted by parents very often from a mistaken notion about "hardening their constitutions;" but we fear there is good reason to suppose that this hardening process often ends in death. These children should be very carefully clothed, and their legs, arms, and chests should be kept carefully covered up, except during the summer months. If the parents can afford it, it is advisable for them to pass the winter in a warmer and more certain climate than is to be found in England, except in some favoured localities. The skin should be kept scrupulously clean, and should be washed daily with soap and water. The tendency to disease of the bowels should make one very careful about the diet of such children. It should be carefully adapted to their age, and should be bland and unirritating. Any unwholesome particle may lodge in the bowels, set up irritation, and cause a tubercular deposit. Uncooked vegetables, underdone potatoes, a piece of gristle, the outside white skin of the orange, or the stones of a grape or raisin, may be sufficient to induce the trouble. Milk, soups, carefully boiled or roast meat, wheaten bread (not oatmeal or brown bread), carefully and thoroughly cooked vegetables, soft puddings of custard, rice, tapioca, or other farinaceous articles, and cooked fruit, ought to constitute the diet of such children. The actions of the bowels must be carefully looked to, and constipation or relaxation must receive immediate attention. Dosing, always a dangerous proceeding, is especially so in these cases, and if purgatives are necessary they must be of a very mild character. The bowels may often be relieved by giving a simple injection of soap and water by the bowels, but this is a measure which ought only to be used occasionally, and ought never to be allowed to become a practice. The best drugs to be used in these cases are the salts of soda, senna, or castor oil. Half a drachm of *phosphate of soda* in a little broth or some hot milk is a very efficient purgative, and, being tasteless, is of great service in the nursery. Half a tea-spoonful of syrup of senna or a tea-spoonful of castor oil may be given when necessary, but the employment of the stronger purgatives—rhubarb, jalap, grey powder, or calomel—is not to be thought of, except with the advice of a medical man.

Certain medicines are of undoubted service in tuberculosis, and first among these we must mention that which is so useful in all conditions of disordered nutrition in childhood—*cod liver oil*. If this be given during convalescence from the infantile

fevers, benefit almost always accrues to the patient, and the manner in which children grow, make flesh, and improve in appearance generally, is one of the most remarkable facts which the physician is ever called upon to observe. If the patient be pale and bloodless, *steel wine* or some other preparation of iron may be given in conjunction with the oil or separately. If oil cannot be taken, cream is sometimes given, and is indeed a very pleasant substitute, but its medicinal properties are inferior to those of the oil. Pancreatic emulsion we firmly believe to be of no use. A difficulty is often experienced in getting children to eat fat, and as a rule they carefully cut off and put at the side of their plates every particle of fat that is given them. It is no good correcting children for this, and the ability to appreciate and digest big pieces of fat will not be engendered by talking. Fatty things are undoubtedly good for children, but fat is better given them in a state of fine division. New milk contains an abundance of fat, and for this reason, as well as for its other high dietetic values, milk should form a large part of the nursery dietary. Bread and milk for breakfast, and milk puddings of all kinds, are appreciated by all children. Bread and butter is, of course, the staple food of children from two years old and upwards, and in this form they get a large amount of fat. Eggs, too, contain fat, and there is seldom any difficulty in getting them to eat eggs. Never let a child be wasteful with its food, nor allow it to be foolishly capricious; but, on the other hand, children should not be bullied to eat that which they do not like. If they do not like fat in its grosser forms, give the more delicate varieties.

So long as wholesome flour and cow's milk are obtainable, do not give any of the innumerable patent foods which are so freely advertised, and which are sold in the form of powder in hermetically-sealed tins. The labels of these tins are often covered with the analyses of eminent chemists and the testimonials of equally eminent doctors, and possibly some of these patent articles may be good substitutes for the unwholesome trash which is often given to the children of the poor; but it must stand to reason that their dietetic value cannot excel, and probably falls far short of, a mixture of wheaten bread and new milk. If the appetite fails, much good may often be done by giving a very small quantity (half a grain or a grain) of quinine dissolved in one drop of dilute sulphuric acid, and mixed with a little infusion of orange peel, about half an hour or twenty minutes before dinner.

When the more acute symptoms appear, the treatment of the case necessarily passes out of the hands of the friends into those of the doctor, so that we shall not say much on that point. For diarrhoea, it is best to give a little *chalk mixture*, or chalk combined with some astringent medicine, such as *catechu*, or *tannic acid*. Laudanum or opium in any form is never to be given to children without medical advice. The treatment of the lung condition does not call for any very particular remarks, and we must refer the reader to the article on consumption for information on this point. The treatment of the head symptoms also can hardly be discussed here. Very few cases of recovery after well-established tubercular meningitis are on record, and these have been effected by the employment of measures which would necessitate the supervision of a medical man.

Ulceration of the Gums.—This, among the lower orders, is a not uncommon and

very troublesome condition. It occurs generally just after the child has cut its first teeth, and is characterised by a fœtid ulcerating condition of the gums, which usually begins behind the front teeth, but soon spreads to the front. The gums are red and swollen, and the margins next the teeth are sore, and covered with a buff-coloured, pasty, sticky matter, which adheres to the surface of the sores, and usually smells most offensive. This condition may be limited, or it may spread till it affects the whole of the gums, and may be so deep as well as so extensive as to cause loosening of the teeth. In extreme cases, the child is in a pitiable state, and runs no small risk of being poisoned by the constant inhalation of the fœtid exhalations from its own gums, and the absorption of putrid matter. The disease is caused by bad hygienic conditions, and is usually attributable to foul air and injudicious feeding.

The *treatment* consists chiefly in a most scrupulous attention to cleanliness. The mouth must be constantly washed out with water to which some disinfecting fluid has been added—and perhaps Condy's Fluid is the best for this purpose; sufficient being used to give a purple tinge to the water.

Always after taking food the mouth must be washed out, and all offensive matter removed with a camel's-hair brush. For a local application to the gums there is perhaps nothing better than a saturated solution of chlorate of potash. Glycerine of tannin is also a valuable remedy in these cases. Good may also be done by applying a solution of nitrate of silver. The child must be carefully and constantly fed with milk and strong broths, and it is generally necessary to give some stimulant also. The state of the bowels must be attended to, and the internal administration of quinine in doses varying from half a grain to a grain, according to age, is very strongly to be recommended.

Ulcerations of the Mouth are exceedingly common in children who are in a weak state of health, or who are injudiciously fed, or who are not kept clean; and ulcerations may generally be taken to indicate one of these three conditions. The most common form of ulceration is small circular abrasions, situated generally on the inside of the lips, or the cheek, or the side of the tongue. They are called *aphthous ulcers*.

They are not usually difficult to cure. The first indication is to keep the child's mouth perfectly clean; and the mouth should be washed out whenever it is fed. The best thing to apply to the ulcers is glycerine of borax, or glycerine of tannic acid, which may be got at any chemist's, and should be applied with a camel's-hair brush. Another favourite and valuable application is chlorate of potash, a strong solution of which may be used to wash the mouth, or the child may drink a mixture containing four grains of the salt to every ounce of water. Borax and honey is also an old and useful application, but inferior probably to the preparation made with glycerine. The child's general health wants attending to, and it is often advisable to give a brisk purgative of rhubarb, soda, and grey powder, or even a little calomel and jalap. The diet should be as simple as possible. If any of the ulcers show a reluctance to heal, it may be advisable to touch them with a solution of lunar caustic.

Vaccination.—*Vaccinia* is the name given to the slight constitutional disturbance

which occurs in children after vaccination, and although it is hardly fair to count it among the diseases of childhood, we shall nevertheless discuss the topic at some length, because of the agitation against the practice which has sprung up of late years. The reasons for the anti-vaccination agitation seem to be twofold, and the most important of these lies in the fact that the present generation cannot be said to have any real acquaintance with the disease which vaccination protects us against. It is true that now and again we have an epidemic of small pox, but the epidemics of modern times are nothing when compared with the horrible pestilences of a century ago. When an enemy is in sight, and still more when he is in our very midst, we gladly submit to any amount of taxation in order to be rid of him; but when the enemy retires again, we are very apt to grumble even at the moderate taxation which serve to support the armaments, the existence of which keeps him at a distance. Vaccination is the tax as it were which has enabled us to compel the small pox to surrender at discretion; and the enemy being driven off, the thoughtless have raised a fruitless agitation against the tax.

Before the days of Jenner (a man whose memory should be enshrined with the memories of the greatest names that have adorned our history), small pox raged to an extent that was simply appalling. It was estimated that half a million of deaths annually were due to small pox in Europe alone, and in London one-fourteenth of the entire deaths were attributable to this cause. Mr. Simon, in an able paper appended to the report of the Select Committee on Vaccination (1871), reminds us that a fourteenth of the total deaths meant much more, when the total, "as compared with the population, represented perhaps double our present death-rate."

It was a pestilence doubly horrible because the seeds of it seemed capable of flourishing in any soil. It smote the wealthy living in palaces equally with the poor in their hovels, and proved as destructive to Indian tribes encamped upon the open prairie as to populations crowded in close cities.

Mr. Simon, in the report above alluded to, says :—

"For a popular notion of the disease it may be enough to cite what it did in royal families. In the circle of William the Third, for instance, his father and mother died of it, and, not least, his wife; and his uncle the Duke of Gloucester; and his cousins, the eldest son and youngest daughter of James the Second; and he himself (like his friend Bentinck) had suffered from it most severely, barely surviving with a constitution damaged for life."

Or again in the Court of Austria, "Joseph the First," says Vehse, "was carried off, when not more than thirty-three years of age, by the small pox, to which, in the course of the eighteenth century, besides him, two empresses, six archdukes and archduchesses, an elector of Saxony, and the last elector of Bavaria, fell victims." To this list might have been added, no doubt, many other names; among them, for instance, a Dauphin (1711) and a King (1774) of France, a Queen (1741) of Sweden, and an Emperor (1727) of Russia."

It would be thought an awful epidemic nowadays that should strike like this in high places.

The following account (taken from the same source) will show that we are not

speaking without facts in our assertion that savage tribes suffered equally with the rich and the civilised. Mr. Simon was indebted for the ensuing interesting paragraph to Mr. Lloyd's translations of "Prince Maximilian's Travels in the Interior of North America":—

"The disease first broke out about the 15th of June, 1837, in a village of Mandans, a few miles below the American fort, Leavenworth, from which it spread in all directions with unexampled fury. The character of the disease was as appalling as the rapidity of the propagation. Among the remotest tribes of the Assiniboin, from fifty to one hundred died daily. The patient, when first seized, complains of dreadful pains in the head and back, and in a few hours he is dead; the body immediately turns black, and swells to thrice its size. In vain were hospitals fitted up in Fort Union, and the whole stock of medicines exhausted. For many weeks together our workmen did nothing but collect the dead bodies and bury them in large pits; but since the ground is frozen, we are obliged to throw them into the river. The ravages of the disorder were the most frightful among the Mandans that ever broke out. That once powerful tribe, which by accumulated disasters had been reduced to 1,500 souls, was exterminated with the exception of thirty persons. Their neighbours, the Big-bellied Indians and the Ricorees, were out on a hunting excursion at the time of the breaking out of the disorder, so that it did not reach them till a month later; yet half the tribe was already destroyed on the first of October, and the disease continued to spread. Very few of those attacked recovered their health; but when they saw all their relations buried, and the pestilence still raging with unabated fury among the remainder of their countrymen, life became a burden to them, and they put an end to their wretched existence, either with their knives and muskets, or by precipitating themselves from the summit of the rock near their settlement. The prairie all around is a vast field of death, covered with unburied corpses, and spreading for miles pestilence and infection. The Big-bellied Indians and the Ricorees, lately amounting to 4,000 souls, were reduced to less than half. The Assiniboin, 9,000 in number, roaming over a hunting territory to the north of the Missouri, and as far as the trading-posts of the Hudson's Bay Company, are, in the literal sense of the expression, nearly exterminated. They, as well as the Crows and the Blackfeet, endeavoured to fly in all directions, but the disease everywhere pursued them. At last every feeling of mutual compassion and tenderness seems to have disappeared; every one avoided the others. Women and children wandered about the prairie seeking for a scanty subsistence. The accounts of the situation of the Blackfeet are awful. The inmates of above one thousand of their tents are already swept away. They are the bravest and most crafty of all the Indians, dangerous and implacable to their enemies, but faithful and kind to their friends. But very lately we apprehended that a terrible war with them was at hand, and that they would unite the whole of their remaining strength against the whites. Every day brought accounts of new armaments, and of a loudly-expressed spirit of vengeance towards the whites; but the small pox cut them down, the brave as well as the feeble, and those who were once seized with this infection never recovered. It is affirmed that several bands of warriors who were on their march to attack the fort all perished on their way, so that not one survived to convey the intelligence to their

tribe. Thus, in the course of a few weeks, their strength and their courage were broken, and nothing was to be heard but the frightful wailings of death in their camp. Every thought of war was dispelled, and the few that are left are as humble as famished dogs. No language can depict the scene of desolation which the country presents. In whatever direction we go, we see nothing but melancholy wrecks of human life. The tents are still standing on every hill, but no rising smoke announces the presence of human beings, and no sounds but the croaking of the raven and the howling of the wolf interrupt the fearful silence. The above accounts do not complete the terrible intelligence we receive. There is scarcely a doubt that the pestilence will spread to the tribes in and beyond the Rocky Mountains, as well as to the Indians in the direction of Santa Fé and Mexico. It seems to be irrevocably written in the book of fate that the race of red men shall be wholly exterminated in the land in which they ruled the undisputed masters, till the rapacity of the whites brought to their shores the murderous firearms, the enervating ardent spirits, and the all-destructive pestilence of the small pox. According to the most recent accounts, the number of Indians who have been swept away by the small pox, on the western frontier of the United States, amounts to more than 60,000."

Having endeavoured to present to the mind of the reader some notion of what small pox really was in the days before Jenner's great discovery, we now pass on to a consideration of the question of vaccination. "Among the dairy-folks of Gloucestershire there was a curious tradition that a certain pustular eruption observed on the teats of cows, and supposed to be engendered in them by contagion from 'the grease' of horses, might extend its infection to the human subject; and that persons who had suffered from this cow pox, as it was called, were by it rendered insusceptible to small pox." This was the tradition which Edward Jenner had heard, and which he set himself to investigate, and which culminated in the great discovery of vaccination, which was first made publicly known in 1798, and which was first practised in London in 1799. It is well known that the spread of vaccination and the decline of small pox have gone hand-in-hand, and there is every reason to believe that the disease which once was the terror of Europe may become ultimately extinct.

There is one fact concerning vaccination which, taken alone, would almost be sufficient to prove the great boon it has been, and the real and undoubted protection that it is. It is this, that at the small pox hospital it is always the custom to vaccinate the nurses, whether they have been previously vaccinated or not, before they enter upon their duties, and it has resulted from this that *no nurse employed in the small pox hospital has ever contracted small pox*. Jenner never claimed for his discovery that it was absolutely preventive of small pox, but he asserted that it was as good a safeguard against the disease as small pox itself. Many people have had small pox twice, and many even of those who have been thoroughly vaccinated suffer from small pox, but the disease in both these cases is so modified and of such a mild type that it is robbed of all its terrors. It has been observed also that the mortality among those who have been vaccinated is infinitely less than among those who are not so protected. Whenever small pox becomes epidemic, the writer of this article is always vaccinated, and he is thus enabled to move about among the sufferers from the disease without a shadow of apprehension.

and he wishes he could persuade his readers to adopt the same custom, which is a common one among members of the medical profession.

Vaccination is a very simple operation, and is performed upon healthy children at the age of three months. The left arm is selected, and the surface should be lightly scratched in four or five places with the point of a lancet or even an ordinary darning-needle. The scratching should be done very lightly (across and across like the "cross-hatching" of an artist), so as to cause a very very slight oozing of blood. To these patches the vaccine matter is applied. It is applied either from little ivory points (which have been previously dipped in the ripe vaccine vesicle of a healthy child), which may be wiped on the oozing surface, or from fine glass tubes filled with vaccine lymph, from which the lymph readily flows when the ends are broken off. *No point or tube which has any blood upon it, or which is yellow and mattery, should on any account be used.* It is from using such points that the danger of inoculating the child with some disease other than vaccinia is incurred. After the lymph has been applied to the arm, care must be taken that it is not removed again by rubbing or washing. If too much blood be drawn, the lymph is apt to be washed away in the stream.

For two days after the performance of vaccination the parts remain quiet. At the end of the second or on the third day a little raised pimple, or papule, appears at each of the spots which have been inoculated.

On the fifth or sixth day the vesicle makes its appearance, and it is perfect by the eighth day—that is, the day week on which the vaccination was performed. The perfect vesicle is a little bluish-white pearl-coloured bladder, which has a cup-like depression usually in the centre. The eighth day is the time, before the contents of the vesicle become yellow and mattery, at which points or tubes may be charged for the vaccination of others. After the eighth day, the *areola* begins to form round the vesicle. The areola is a red circle of inflammation, and its formation is usually accompanied by swelling of the arm, enlargement and tenderness of the glands in the armpit, and occasionally considerable constitutional disturbance. At this time the contents of the vesicle may become mattery. On the tenth day the areola begins to fade and the vesicle to dry. At the end of a fortnight a scab forms, which falls off in about another week. The scar left by vaccination endures for ever, and is highly characteristic and unmistakable, and resembles a depression made with the top of a thimble more than anything else.

Vaccination, if properly performed, is a protection against small pox for the whole of life, probably, but its protective power seems to weaken with the lapse of time, so that it is advisable to repeat the operation at intervals. Every seven years has been mentioned as the period after which it is advisable to repeat the operation, but the number seven has more association with superstition than with science, probably. We think, however, and should strongly advise that re-vaccination should be performed whenever small pox becomes epidemic. The agitation against vaccination has been partly based also on the fear which many people entertain of inoculating other diseases (and notably syphilis) with the vaccine matter. That such cases have occurred there can be no doubt, but their number is infinitely small when compared with the millions of cases of vaccination which occur throughout Europe in the

course of a year, and it has fallen to the lot of very few physicians to encounter a single case. Let us take for example the experience of Sir William Jenner, as given by him before the Select Committee on Vaccination in 1871. Sir William (Parliamentary Blue Book, p. 259), after stating that his experience had been gained in three metropolitan hospitals (including the Children's Hospital), and in his private practice as well, goes on to say, in answer to Question 4,508 :—

"I have never seen any evil arising from vaccination except the local troubles. It may sometimes cause inflammation of the arm, but nothing beyond that—nothing that the patient did not recover from in a week or two.

"4,511.—Have you ever known of any case of syphilitic infection which you have reason to suppose came from vaccination?—Never.

"4,512.—Never in your private practice?—Never in my private practice nor in my public practice.

"4,513.—Have you had any case brought before you which would seem to you, with your medical experience, to prove that syphilis has been given by vaccination?—No, I never had one such case.

"4,514.—I suppose that I may judge that you, with your medical knowledge and experience, would think yourself not justified in not recommending every parent to have his child vaccinated early in life?—I should think myself wicked and really guilty of a crime if I did not so recommend."

The experience of Mr. Thomas Stone, the medical officer of Christ's Hospital, London, is so remarkable that we think it should be as widely known as possible, and therefore we make no excuse in reproducing a summary of it here. He furnished the committee with a statistical table of the number of deaths from all causes, and the number of deaths from small pox, which occurred in each year in the century included between the years 1751 and 1850. During the first half of the century (1751 to 1800) there was no rule either in respect of inoculation and, of course, not in respect of vaccination, although Mr. Stone thinks it highly probable that many of the children had had small pox either naturally or by inoculation prior to their entrance at the school. During this period the average number of boys in the school was about 550 per annum, and the total deaths amounted to 264, of which 31 were from small pox. Thus it appears that the death-rate from all causes in that period was .96 per cent., and those from small pox .11 per cent. In the half-century included between 1801 and 1850, vaccination was made compulsory on every child entering at Christ's Hospital. In that period the total number of deaths was 235, or .59 per cent., and there has only been one death from small pox in these fifty years, and that took place in 1820.

We devoutly wish that those who agitate against vaccination would read (and try to understand) the Parliamentary Blue Book from which we have so largely quoted, and in which they will find details of all the solid facts in favour of vaccination, as well as the windy assertions which have been made against it. Those who refuse to have their children vaccinated have, perhaps, a right to do what they like with their own, but they ought to remember that they have a certain duty to perform towards their neighbours; that every child who has not been vaccinated runs enormously-increased risks of contracting small pox; and that every case of

small pox may be the starting-point of an epidemic which, if it spare the unconscious child who is the *fons et origo*, may nevertheless be a source of mourning for many a surviving parent.

It is true that children are occasionally ill *after* vaccination, and that just this period—*i.e.*, the first six months of life—is that which is most fatal to children in general, and that in which constitutional maladies are very apt to show themselves. It is also true that the slight disturbance caused by vaccination is occasionally sufficient in delicate subjects to determine the appearance of eruptions on the head or skin, just as a common cold, or any trifling disturbance, would occasion them; but our experience has been that the vast majority of troubles which have been ignorantly alleged by mothers to be caused by vaccination could not by any possibility of means have had any connection with it, although they may have nearly coincided in the matter of time.

The *treatment* of local troubles which may occasionally occur in the arm after vaccination is simple enough. If the arm gets painful, and the glands in the armpit become tender after the eighth day, the arm should be carried in a sling, and if there be much swelling or redness round the punctures, warm and moist applications will be found to give relief; at the same time the bowels and digestive functions may want attention. Care must be taken that the child does not scratch the punctures, which often itch considerably when they are healing, and equal care must be taken that they are not rubbed or irritated by the dress. It is often a good plan to cover them with a piece of soft rag on which a little cold cream has been spread. This may be covered with some soft cotton wool, and the whole retained by means of a bandage. In this way all irritation will be reduced to a minimum, and any risk of the dress sticking to the sores will be obviated. Do not pick off the scabs, but allow them to loosen gradually and fall off by themselves.

Water on the Brain, or Chronic Hydrocephalus, is happily a very rare disease. It consists of a dropsy of the brain—a collection of water within the cavity of the skull. The disease begins to make its appearance about the sixth month of life, just when the child begins to cut its first teeth. As the water collects inside the head, the bones of the skull, being soft and not yet united together, yield to the pressure from within, and grow thin and separate from each other, so that the head becomes enormously large, the natural openings between the bones are much bigger than ordinary, and the bones themselves are sometimes so attenuated as to allow of the detection of the fluid beneath them. The head is sometimes nearly as big as the whole of the rest of the child's body, and these unfortunate children are the "big-headed monsters" who are shown as curiosities at country fairs. Although the head grows big, the face remains of a natural size, and this disproportion between the size of the head and face gives the child a very extraordinary appearance. The forehead overhangs the eyes, and the eyes themselves have a peculiar appearance owing to the lower half of the "whites" being completely obscured. The veins of the head are usually large, and if the child is able to walk about, it gets a peculiar oscillating gait, owing to the great size and weight of its head. The disease often occurs in the tubercular and the rickety. The appetite is usually fairly good; but in spite of this

the child loses flesh steadily. The duration of such cases, which are (happily perhaps) generally fatal, is from one to three years, but now and again they live on into adult life.

Great care must be taken to distinguish this condition from the large head of rickets, which is not by any means so serious a condition. In rickets we find the other signs of the constitutional state in other parts of the child's body, and although the fontanels are late in closing in rickets, they do not remain so widely open as in chronic hydrocephalus; and a further distinction is found in the fact that the bones in rickets are rather thicker than ordinary. The peculiarity of the eyes present in hydrocephalus is not present in rickets.

The *treatment* of these cases does not usually afford much ground for hope. The general health of the child must be carefully attended to. Tonic and alterative medicines may be given, and its general hygienic arrangements must be carefully supervised. Iodine, in the form of iodide of iron or iodide of potassium, has been highly recommended. The head has been blistered with advantage, and the administration of diuretic medicines, such as carbonate of potash, acetate of potash, and infusion of broom, has been supposed to assist in the reduction of the fluid. In some constitutional states the administration of mercury might be highly advisable. The head may be tapped, and some cases have of late years been published which show the advantage of this form of treatment. The tapping is best done by means of an instrument called an aspirator, and as the fluid is drawn off the head should be compressed slightly by means of a bandage. These are of course measures which can only be done by persons thoroughly conversant with disease; and, indeed, the treatment generally of this very grave disorder must be left entirely in the hands of professional advisers.

Whooping Cough.—This disease owes its name to the loud whooping, crowing sound with which the sufferer draws breath after a violent attack of coughing. The whoop is a very variable symptom of the disease. It may be very loud, and constitute the principal feature, or, which is important to bear in mind, it may be absent altogether. Whooping cough seems to be more infectious even than measles, and, as mentioned while discussing the last-named disease, it is often established during its continuance or the subsequent convalescence. It should be borne in mind that whooping cough is a general disease—a disease, that is, affecting the whole body, and although the symptoms are mainly referable to the lungs and windpipe, the disease is by no means limited to those parts. The disease is most common in childhood, but is not confined to that period of life. The phenomenon of an old person suffering from whooping cough is far from uncommon.

The attack begins generally as a common cough—an ordinary attack of bronchitis. The child has attacks of coughing, and wheezing can not unfrequently be both heard and felt in its chest. After this ordinary cough has lasted for ten days or a fortnight, it becomes violently spasmodic in character, and the well-known sound is developed. To see a child during a severe paroxysm of whooping cough is a truly piteous sight. It is probably playing with its fellows, and enjoying its game as much as the others, when suddenly it is conscious of the approaching trouble. It ceases to play, stands

still, and catches hold of the nearest object for support. The cough is loud, severe, and repeated five or six times, and then comes the prolonged whooping inspiration, followed by a fresh series of coughs and a fresh whoop. This is repeated again and again until the child becomes blue in the face, and gasps for breath. The eyes look bloodshot, and stream with tears. Sticky tenacious mucus is coughed through the mouth and nose, and not unfrequently the straining efforts at coughing are so severe that the contents of the bowels and bladder are discharged. It is very common for an attack of coughing to terminate with vomiting, and whenever a child vomits with a cough, the nurse should suspect that it is suffering from whooping cough. With the vomiting the cough ends, the complexion becomes natural, and in a few minutes the child is again playing, quite forgetful of the trial it has passed through. These attacks of coughing recur at uncertain intervals, which vary with different individuals. In bad cases, or when the attack is at its height, they may come as frequently as one in half an hour, and as the patient gets better the attacks become not only less severe but less frequent also. The attacks of coughing are brought on by anything which irritates the child, and if ever it be allowable to spoil a child, the period of its whooping cough is one of those times. Any sudden rebuke, or rapid and sudden movement, will to a certainty induce an attack, and occasionally even the slight irritation caused by taking food is sufficient to produce them. The disease is one of very uncertain duration, and often proves very trying to the friends by its obstinate persistence, for as long as any member of a family has whooping cough, the whole of the household is placed in quarantine by its social circle. In favourable cases the disease completely subsides in about three weeks; but it is no unusual thing for it to persist for twice as many months. It is commonly supposed, and with reason, that the whooping noise occasionally lasts long after the infectious period of the disease has passed away, and that consequently many a child with pronounced whooping inspiration might with perfect safety mix with its fellows at school and elsewhere. It is impossible, however, in our present state of knowledge to say where the infectious period of the disease ends and the non-infectious begins, so that it is better to be on the safe side, and to keep a child entirely separated until it has absolutely ceased to whoop. Any child who is whooping would certainly get the credit of spreading the disease should any children with which it had come in contact succumb to whooping cough.

Whooping cough must at all times be looked upon as a serious disease, and the slightest attacks must be a source of some uneasiness to the friends of children. It is a more common cause of infant mortality than is generally supposed; but when it is fatal, it is so usually by the *complications* which are apt to be established during its continuance. Thus, the *bronchitis*, which is always present to a certain extent, may become unduly severe, and may attack the fine tubes of the lung, in which case the gasping for breath becomes a marked feature, the respiration is hurried, the cough frequent, and the countenance livid, according to the amount of suffocation which is present. True *inflammation of the lung* may be set up, and when this is the case the characteristic features of whooping cough subside until the inflammatory attack has passed off. *Bleeding from the lungs or nose* will sometimes occur, and prove very weakening to the patient.

Convulsions are a serious complication, and are very frequently fatal. The lungs, from the incessant cough, may drift into the condition which is technically known as *emphysema*—i.e., they become over-blown, a state analogous to “broken wind” in the horse. In this case the child remains short-breathed and asthmatic, and this condition once established is very liable to be permanent. *Tubercular disease* is very often established during whooping cough, and the patient may become consumptive or suffer from tubercle of the brain, and die with symptoms of hydrocephalus, or drift into the condition which is known as marasmus or atrophy.

The *treatment* of whooping cough varies according to the stage of the disease. These stages may be considered as three in number. (1) the febrile stage, in which cough and cold are the ordinary symptoms; (2) the paroxysmal stage, in which the patient is tormented with cough and spasm; and (3) the nervous stage, in which the other symptoms having passed away the whoop alone remains. During the first stage it is necessary to carefully regulate the diet and clothing of the invalid, and to guard him as much as possible from the effects of cold. Perspiration should be encouraged at night by the administration of warm drinks, and the chest should be wrapped in flannel or cotton wool, and covered with oiled silk. If the bronchitic symptoms be severe, some spirits of camphor or spirit of turpentine may be previously sprinkled upon the wool or flannel. It is necessary to regulate the action of the bowels, and it is usually advisable to restrict the patient to a slop diet if the amount of the febrile symptoms be considerable. The next thing necessary is to encourage expectoration. If old enough, patients should be told to expectorate, and not to swallow the secretion which is coughed from the lungs, and medicines should be given in order to loosen the phlegm. The best of these, perhaps, are ipecacuanha, squills, syrup of tolu, and ammonia, and these drugs may be administered singly or combined. Sometimes, when the lungs are much choked with secretion, great advantage is derived from the administration of an emetic, such as warm mustard and water, but these are points which can only be decided by the practised judgment of a medical man. When the febrile stage has passed, we may try to allay the spasm and paroxysmal cough, and here we think we may well give a word of warning as to the danger of having recourse to patent quieting medicines, of whose composition we are ignorant. Nearly all of these preparations contain laudanum or opium in some form or another, and we have no hesitation in saying that opium has been the cause of some thousands of deaths when administered ignorantly and thoughtlessly for the relief of the severe troubles of whooping cough. Children are at all times peculiarly susceptible to the influence of narcotic medicines, and they are particularly so when their breathing power is impaired by disease of the lungs. A child who is under the influence of opium, even though its lung-tubes be filled with secretion, has its sensibility so dulled that it “forgets” to cough, and to forget to cough in such a plight is to die. The child who is incessantly coughing becomes quiet, and the conclusion drawn is that it is better, whereas, as a matter of fact, it is being slowly suffocated by the secretion in its lungs. Soothing medicines, and especially opium, should never be given without authoritative advice; and, indeed, we hardly know of any condition in which it is warrantable to give opium to very young children. Few

diseases have been so variously "drugged" as whooping cough, and the number of specific remedies which at one time or another have been put forward for its cure is prodigious. Syrup of chloral has been much in fashion of late, and although it is of undoubted service, we should deprecate the employment of so powerful a remedy by unpractised hands. Bromide of ammonium, bromide of potassium, belladonna, camphor, and prussic acid have all been useful. More important than drugs, however, is it to bear in mind to abstain from all things that are likely to induce a fit of coughing; and, as we have said before, the child should be rather "spoilt" than otherwise for a time.

In the third stage, tonic medicines, combined with anti-spasmodics, are of great service, and it should be borne in mind that a good supply of wholesome and digestible food and an abundance of fresh air are the best of all tonic medicines. If the circumstances of the child allow of a supply of both of these, recovery is usually rapid. We do not mean to say, however, that drugs are not of very great service, and if the child be pale and weak, and has lost flesh during its illness, a tea-spoonful of cod liver oil combined with an equal quantity of steel wine will be found a most excellent means of restoring the vigour which has been lost. The nervine tonics are also of great service, and first among these we should place quinine, which may be given in doses of a grain or less. If the whooping noise persist obstinately, belladonna combined with sulphate of zinc is perhaps the most generally-approved remedy. The dose of each of these should be very small to begin with, and after a few weeks may be increased. Sulphate of zinc is a powerful emetic, and if any injudicious attempt be made to give large doses from the first, the object will be defeated by the vomiting of the patient, but by gradually increasing the dose the recipient can ultimately be made to tolerate enormous quantities. The same remarks apply to belladonna, and by gradually increasing the dose we are enabled to give it in quantities sufficient to arrest the spasm of the windpipe. It should be remembered, however, that zinc and belladonna are both poisonous drugs, and when they are administered it would be well to keep the patient under the supervision of one who is well accustomed to the observation of disease. If the child be still much disturbed at night by the cough, a dose of bromide of ammonium or bromide of potassium (ten grains of either) may be given at bedtime. Nitric acid is a remedy which has been regarded with favour, and from two to ten minims of the dilute acid given with a little syrup of orange-peel is often of great benefit; and it has this advantage over some other medicines, that the child does not object to it, and swallows it without difficulty. By some, the application of a solution of nitrate of silver at regular and frequent intervals to the larynx itself has been recommended, and it has been stated that this is often sufficient to arrest the cough at once. The application of caustic solutions to the throat is a somewhat severe measure, requiring considerable skill on the part of the operator, and should not be attempted by an amateur. The liability of a child recovering from whooping cough to fall into bad states of health, and to fall a victim to tuberculosis or scrofula, must be always borne in mind, and the greatest care must be exercised in the general hygienic arrangements of the convalescent. A short sojourn at the seaside, at the southern coast in

winter or early spring, or the eastern coast in summer, is strongly to be recommended. For children living in cities, the mere removal for a time to any healthy country district is often sufficient to completely re-establish the health.

Worms.—Children are mainly affected by two varieties of intestinal worms. These are known as thread worms and round worms. *Thread worms*, of which the scientific name is *ascaris vermicularis*, and which are commonly spoken of as ascarides, inhabit the lowest part of the bowel, and live just within the lower orifice or anus, and indeed crawl in and out. They resemble pieces of white thread, hence their name. They are innumerable in quantity, and are about a quarter of an inch in length. They cause an intolerable itching, and often provoke painful contractions of the bowel (*tenesmus*). The bowel generally gets into a semi-inflamed condition, and slimy mucus is often discharged from it. The irritation may set up that most troublesome condition known as falling down of the bowel (*prolapsus ani*). The irritation in the rectum is occasionally the cause of fits, and it often sets up a sympathetic irritation in the genito-urinary organs which is very undesirable. Now it must be borne in mind that a healthy child hardly ever has thread worms, but a sickly child is hardly ever without them. They are always an indication of ill-health, and the ill-health is the cause of the worms.

Treatment.—Injudicious feeding often occasions irritation of the rectum and the secretion of mucus, in which mucus the worms live and flourish. Look first of all, therefore, to the child's diet, and correct whatever is amiss, and take particular care that the child has no access to trash. It may be necessary to give a mild purgative, in fact, this course is generally to be advised. Next we may treat the worms locally, and the best method is usually by throwing injections into the bowel. Several injections have been recommended. Salt and water is very effectual. So also is infusion of quassia. Half a drachm of the tincture of the perchloride of iron in four ounces of rose water or lime water is very valuable also. The injection should not be too large, and it is not necessary to inject it with great force, as the worms inhabit the lower part of the bowel. The injections act, no doubt, in a large degree mechanically, and it is quite sufficient in most cases merely to keep the bowel clean.

The most important part of the treatment is the constitutional treatment. The child in these cases almost invariably needs tonics. Cod liver oil and iron, or a dose of steel wine alone after meals, must be given in almost every case. These measures are usually successful, and it is not necessary as a rule to have recourse to those drugs which are recognised as worm medicines. If it be requisite, however, the best of these is santonin, which should be given at bedtime in doses varying from two to six grains, according to the age of the child. This should be followed in the morning by a brisk purgative, such as senna tea.

Round worms.—This worm is technically known as the *ascaris lumbricoides*, and it is usually spoken of as the lumbricus. It usually inhabits the small intestine, but it may be found in any part of the intestinal canal between the stomach and the anus. They closely resemble the ordinary earth worm, and vary in length from two to sixteen inches. The child may void them by vomiting, but they are usually passed from the bowel. The worm being a creature of some

considerable size, the symptoms which they cause are often serious. They occasion griping pains in the abdomen, with itching about the anus and nose. Occasionally diarrhœa is produced by them, and they are certainly a tolerably frequent cause of epileptic fits, of squinting, and of enlargement or inequality in the size of the pupils of the eyes. They are said to have been the cause of St. Vitus's dance, but this is very doubtful. It is certain, however, that in many cases they occasion no symptoms at all, and the first indication of their presence is the finding them in the evacuations from the bowels. Again, the various symptoms which are said to be due to the presence of round worms very frequently exist without any evidence whatever of the presence of worms. The treatment of round worms consists first in the improvement of the general health by attention to diet and the administration of tonics, and secondly in the giving a dose of *santonin* at bedtime, followed by a brisk purgative in the morning.

THE TREATMENT OF DISEASES.

ABSCESSSES.

AN abscess is usually regarded as a purely surgical affection, but no one willingly submits to the ordeal of an operation, and really much may be done by appropriate medicinal treatment.

Probably the most generally useful remedy for abscess is sulphide of calcium. When given quite at the commencement it will arrest or prevent the formation of matter. When matter has already formed it diminishes and limits inflammation, and quickly brings the abscess to a head. The judicious administration of this remedy will often relieve us of the disagreeable necessity of having an abscess opened by the lancet. For children who are subject to abscesses about the neck or on the buttocks, sulphide of calcium proves singularly useful. It does admirably, too, for a threatened abscess of the breast. In all these cases one of the sulphide of calcium powders (Pr. 78),* or a pill of the same strength (Pr. 68), should be given every two hours for three or four days, or longer if necessary. They will do good, even when the abscess has commenced discharging. Should any difficulty be experienced in inducing a child to take the powders, or should they cause vomiting, the dose may be reduced to a half, or a third, or even a sixth; but it should still be given every two hours—at all events, during the day. In addition, the part should be thickly smeared with a mixture of equal parts of glycerine and extract of belladonna, and over this a good hot linseed-meal poultice should be applied. The poultice should be changed frequently—every two hours if possible—and each time the application of the glycerine and belladonna should be renewed. When a poultice is used to disperse inflammation, or to bring an abscess to a head, it should be large, and should extend beyond the limit of the red and inflamed part, but as soon as the abscess has come to maturity and has burst, the poultice should be but little larger than the opening in the skin, through which the matter is escaping. A large poultice applied over-long soddens and irritates the part, and is very apt to bring out an eruption of little pimples. This mode of treatment rarely fails to do good, and it can under no possible circumstances do any harm.

From the success which attends the external application of belladonna to abscesses it might be supposed that it would do good when given internally, and such is the case. It has been found that taking belladonna will prevent the formation of abscesses in the neck and elsewhere, and that even when matter is present it will check the pain and inflammation. The internal administration will also be found of service for the abscess of the breast which is so common in women who have been obliged suddenly to give up suckling. From five to ten drops of tincture of belladonna

* This and the other references are to the list of Prescriptions which are given together at the end of this work.

should be taken in a little water, three or four times a day, the external application of the glycerine and belladonna being continued.

The aconite mixture (Pr. 38) often does good when high fever is a prominent feature. In such cases it may be given alternately with the belladonna or sulphide of calcium.

Phosphate of lime (Pr. 77) succeeds best when there is a large abscess which has been discharging for a considerable time. Painting round the margin of an abscess with tincture of iodine will often limit the inflammation and prevent it from spreading. After an abscess has been opened and its contents have been discharged, healing may be promoted by the application of a calendula lotion made by mixing a tea-spoonful of tincture of the common marigold with three table-spoonfuls of water. It may be applied by saturating a piece of lint, or two or three thicknesses of linen, and covering it with oil-silk to prevent evaporation. The dressing must be renewed two or three times a day.

During the formation and discharge of an abscess the patient should be "fed up." It is a most exhausting process, and plenty of good nourishment is required. The diet should include good strong soup or broth, mutton chops, plenty of milk, and a fair allowance of stimulant, given preferably in the form of port wine. Change of air, with residence by the sea-side, or right out in the country, becomes an important element in the treatment, especially in old standing cases, or where the discharge has been very great and the health is much depressed.

Further particulars as to the treatment of abscess will be found in the surgical portion of this work.

ACIDITY.

Acidity or heartburn is caused by an excessive secretion of gastric-juice in the stomach. It is a form of dyspepsia or indigestion, and will be found described in detail under the former of those headings.

One of the best remedies for the immediate relief of an attack of acidity is sal-volatile. A single dose of half a tea-spoonful should be taken in a wine-glassful of water. Twenty grains of bicarbonate of potash or bicarbonate of soda dissolved in a little water will answer equally well, although sometimes it leads to the formation of a quantity of gas, which causes distress by distending the stomach. When the bowels are confined, a twenty-grain dose of magnesia or carbonate of magnesia dissolved in water is preferable. Where there is diarrhoea, a couple of table-spoonfuls of lime-water may be taken, either alone or mixed with an equal quantity of milk. These remedies usually act very promptly, and speedily afford relief. They can only be regarded as palliative, for they in no way diminish the tendency to acidity, and in fact rather increase the liability to future attacks. To obtain a radical cure acids must be given before food. Fifteen drops of dilute hydrochloric acid should be taken three times a day, in a wine-glassful of water, half an hour before meals, for a week. When the acidity is associated with loss of appetite, the acid should be combined with a bitter, as in the gentian and acid mixture (Pr. 15). The dose of this is two table-spoonfuls, and it should be taken three times a day, half an hour before meals. It is to be taken as it is, and not

mixed with water. Should this fail, relief may often be obtained by taking the bismuth mixture (Pr. 18) in two table-spoonful doses three times a day, half an hour before meals. When the acidity is accompanied by pale-coloured motions, it is an indication that the liver is not properly performing its functions, and one of the sugar and grey powders (Pr. 71) should be taken three times a day.

For the acidity from which pregnant women often suffer the best remedy is two or three drops of tincture of nux-vomica taken in a little water a few minutes before meals. Should this fail, it is somewhat controlled by drop doses of ipecacuanha wine taken every three hours in a little water.

In all cases of acidity it is advisable to avoid any article of food which has been observed to excite an attack.

AGUE OR INTERMITTENT FEVER.

Whoever has read Robinson Crusoe—and who has not revelled in its pages?—must have formed some idea as to the nature of ague. The fits are so graphically described, and the description is so true to nature, that we feel assured that even if Defoe did not himself suffer from the malady, he must have had opportunities of carefully watching its progress. Ague resembles many other diseases in coming on in paroxysms or fits. The patient suffers from a certain series of symptoms, and then reverts to his ordinary condition of health. This alternation may occur several or many times, according to the duration of the attack.

Ague is caused by the entrance into the system of a poison called “malaria.” What malaria is, it is not very easy to say. We must pause, however, for a moment, and consider what we know about it. It is nothing we can see or feel, or that the chemist can detect, even by his most subtle tests, and we know of its existence only by the marked effects which it produces on those who are exposed to its influence. It is not simply “bad air:” at all events, in the sense in which we usually use that term. The impure air of London and other large cities is injurious enough to the health, but it never gives rise to ague. Malaria is something quite distinct.

It is commonly met with in the neighbourhood of marshes in hot climates, and is often spoken of as “marsh miasm.” It is believed to arise from the decomposition of vegetable matters in moist places, and under high temperatures. It is sometimes met with in sandy soils, but a careful examination will nearly always disclose the fact that there is water and vegetable matter not far from the surface, the moisture being in all probability retained by a bed of clay or some similar cause. It is curious to observe what a small quantity of decomposing vegetable matter is, under favourable circumstances, sufficient to excite ague. A few years ago, at a hospital in Germany, a large day-ward was used for convalescents. As soon as a patient had been in this ward for two or three days, he invariably had a bad attack of tertian ague. In no other ward did this occur, and the matter remained a mystery until on close inspection a large rum cask full of rotten leaves and brushwood was found. This had overflowed and formed a stagnant marsh some four or five feet square, close to the doors and windows of the room, which on account of the heat had been left open at night. On its removal the occurrence of ague at once ceased.

Malaria is seldom met with in cold climates, nor in the winter months of more temperate regions. Decomposing vegetable matter is not in itself sufficient to produce malaria, a certain amount of moisture being essential. It is generally believed that in the case of marshes the poisonous emanations proceed from those parts which are only occasionally covered with water, and then undergo a process of gradual evaporation, and not from those which are more or less completely submerged. Malaria loves low-lying districts, and in temperate climates seldom ascends above a height of 500 feet. It is always found in the greatest intensity near the ground, but why this is we don't quite know. It may be due to the action of gravity, or it may be that the poison is entangled by the fog, and carried down by it. It is well known that in malarious districts it is much more dangerous to sleep on the ground-floor than in the upper storeys. It has often been found that in barracks the number of soldiers taken ill with ague in the lower apartments is greatly in excess of those who suffer in the upper, and consequently in many places abroad it is customary, if possible, to leave the ground-floor untenanted. Malaria is capable of being carried by the wind in a manner analogous to that of fogs. This is a matter of no little importance in tropical climates, where the wind frequently blows for days, weeks, or even months together from the same quarter. When malaria exists above its ordinary level, a careful examination will usually show that it has been carried up ravines by means of currents of air, or that it is due to some local cause. Sometimes even the poison has been blown right over a hill, and dropped, so to speak, on the other side. Malaria has been found to act with by far the greatest intensity at night. It may be that it is at these times more copiously evolved, or it may be that at night the system is more susceptible to its influence.

It is a curious though well-established fact that malaria loses its noxious properties by passing over even a small surface of water, particularly if it be salt water. It would seem as if the water dissolved it, and this is in all probability the case, for in India it is a common belief that water over which malaria has passed is quite unfit for drinking purposes, and that when taken into the system it is capable of producing not only ague, but dysentery, and even cholera. Belts of trees exert almost as powerful an influence as sheets of water in arresting the progress of marsh miasm. It is supposed that foliage has a special attraction for malaria, and that it has the power of decomposing it. It is said that woods and groves were first regarded as sacred from the protective powers which they exert from ague, and in many regions settlers live with impunity close to the most pestiferous marshes, provided only that a belt or screen of trees be interposed. Such, then, is the poison which causes ague.

Every one is susceptible to the action of the poison, and consequently every one is liable to suffer from ague. Neither the old nor the young can claim exemption from the effects of its pernicious influence, and the malady attacks indifferently children of a few days old and men of threescore and ten. Practically the largest number of cases occur in men in the prime of life, and for the very obvious reason that they, the pioneers of civilisation, are more likely to be exposed to the influence of the poison than are women or old men and children.

Debility greatly favours the action of the exciting cause. On many occasions soldiers have been exposed to the action of malaria without suffering in any way whilst strong and in good health, but have speedily succumbed when weakened by exertion and fatigue, or dispirited by defeat. It must be distinctly understood, however, that no amount of debility or privation would in itself excite ague, and that the presence of the malarial poison is absolutely necessary.

Ague is not very common in England. It is confined almost exclusively to Essex, Cambridgeshire, Norfolk, and Lincolnshire; counties in which there are either marshes or fens or low-lying ground which is occasionally covered with water. The disease is very uncommon in London, and you might go to half the hospitals in the metropolis without seeing a single case. The majority of our cases are fortunately not of home manufacture, but are, so to say, imported. The barges on the Thames occasionally suffer, but even this is quite exceptional. London, however, has not always been so fortunate, and a couple of centuries ago the disease was extremely prevalent in this city. It will be remembered that both James I. and Oliver Cromwell died from tertian ague contracted in the metropolis, and that Sir Walter Raleigh was suffering from the same malady at the time of his execution. In the account of Raleigh's last moments we are told that as the morning was very cold the sheriff said would he come down to a fire for a little space and warm himself. But Sir Walter thanked him, and said no, he would rather it were done at once, for he was ill of fever and ague, and in another quarter of an hour his shaking fit would come upon him if he were still alive, and his enemies might then suppose that he trembled for fear. It is evident that it was to his complaint that he referred when, before laying his head upon the block, he felt the edge of the axe and said that it was a sharp medicine, but would cure the worst disease. Our modern methods of treatment are almost as certain, and far less disagreeable. As regards the prevalence of ague, the Dutch at the present day are not much better off than the English were a couple of hundred years ago, for the malady is still very prevalent amongst the inhabitants of the low and level coast of Holland. In Italy the Pontine Marshes near Rome have for ages enjoyed an unenviable reputation for the production of malaria.

We must now consider the phenomena which characterise an ordinary fit of ague. It is usually composed of three distinct stages, which are distinguished as the cold, hot, and sweating stages. A person who is about to have an ague fit usually suffers from certain warning or premonitory symptoms, and these ordinarily consist of nausea, languor, lassitude, and pains in the back and legs. Soon he begins to feel chilly, he grows pale, his features shrink, and his skin becomes dry and rough. Gradually the feeling of cold becomes more intense, the sufferer shakes and trembles all over, his limbs are shrunken, his teeth chatter, his hair bristles, his cheeks, lips, ears, and nails get blue, the breathing becomes hurried, the pulse quick and feeble, and the pains in the head, back, and loins are increased. After a time this condition of distress is succeeded by another of quite a different kind. The sensation of cold gradually decreases, and the shrunken condition of the limbs and features disappears. The face then becomes red and turgid, the skin hot, dry, and pungent, the temples throb, the pulse is full and strong, as well as rapid, and the patient is parched with thirst, and is in an extremely restless and uncomfortable condition. At length another change occurs, the skin feels softer

and more natural, and gradually a moisture appears on the forehead and face, and this goes on increasing until the patient is in a state of the most profuse perspiration. He is then in a condition of comparative comfort, the pulse soon regains its natural frequency, the pains depart, and after a time the sweating subsides, and the fit is over.

The cold from which the patient suffers in the cold stage of ague is purely subjective: he feels cold, but is not so in reality, and if you put your hand to his skin you will find that it is burning hot. A thermometer placed in the armpit usually indicates a temperature of from 105° to 106° Fahr., a temperature as high or higher than we meet with in scarlet fever. And yet at this very time the patient is shivering with cold, often so violently as to shake the bed, and perhaps the whole room. Sometimes the chattering of the teeth has been so violent as to break them, or if loose, to shake them out of the jaw.

Sometimes the fits are incomplete, and the patient suffers from only one or two of its stages. Thus he may shake and yet have no subsequent heat or sweating, or, on the other hand, the sweating stage may be the only one to manifest itself. We have all heard of the man who was so lazy that he wouldn't shake when he had the ague, and it is to be presumed he suffered from the heat and sweating, without the previous rigors. When the paroxysm begins at once with the hot stage, the complaint is popularly called the "dumb ague," to distinguish it from the more common form, what is called the "shaking ague." These incomplete fits are generally to be regarded as an indication that the complaint is about to take its departure, but they occasionally occur at other periods of the disease. One of the most curious cases on record is that of a man who had his fits backwards, the usual order of the stages being reversed. Among the vagaries of the paroxysm, a very singular one has been noticed, in which the affection is confined to a single limb, which passes through the several stages regularly, the remainder of the system being apparently undisturbed.

The most curious and annoying thing about an ague fit is that it always returns. If one could only have it out and then have done with it, we should not care so much, but it is sure to come back again in a few days, unless, indeed, we succeed by the use of appropriate remedies in arresting its progress.

The frequency with which the fit returns varies very much in different attacks, and certain terms are used to designate this difference. Thus, when there is a fit every day the type of the ague is said to be *quotidian*. When the fit occurs every alternate day, say Monday, Wednesday, and Friday, the ague is a *tertian*. The mode of reckoning is to count the day on which the preceding fit happened as the first, so that the next fit in this form occurs on the third day. When the paroxysm occurs, say on Monday, Thursday, and Sunday, the ague is a *quartan*. These are the regular types of ague, but others are recognised which are termed irregular. Thus a *double tertian* differs from a *quotidian* only in having on alternate days fits of corresponding severity, character, and duration. In the *triple tertian* there are two fits on one day, and one on the next. In the *duplicate tertian* there are two fits on alternate days, with an intermediate fever-free day. In a *double quartan* there is a fit on one day, a mild one on the next, and then a fever-free day, and so on. These terms are not very easy to understand, and it must be confessed, that

although they are frequently used, they are not of much practical value. The following table will enable the sufferer to see at a glance from what type of ague he is suffering. We have in each case supposed that there was a fit on the Monday, and have employed the two kinds of crosses to indicate paroxysms differing in character and intensity.

	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
Quotidian.	×	×	×	×	×	×	×
Tertian.	×	...	×	...	×	...	×
Quartan	×	×	×
Double Tertian	×	+	×	+	×	+	×
Triple Tertian	{ ×	×	{ ×	×	{ ×	×	{ ×
Duplicate Tertian	{ ×	...	{ ×	...	{ ×	...	{ ×
Double Quartan	×	+	...	×	+	...	×

It is only right to mention that there are certain cases in which the fits from first to last observe no definite type or order of succession, and these are usually spoken of as *erratic* forms of ague.

What is it that determines whether the type of the attack shall be a quotidian, tertian, or quartan? It is very difficult to say, but it probably depends upon the dose of malaria which is taken into the system. When the body is saturated with the poison, it induces a fit every day, but when the poison is less concentrated, a paroxysm at longer intervals suffices for its elimination.

It is a curious fact that the hour at which the paroxysms commence is more or less dependent on the type of the disease. Thus the paroxysms of quotidian ague usually begin in the morning, those of the tertian at noon, and those of the quartan in the afternoon.

The duration of the paroxysm is also more or less influenced by the type. Thus the fits last in the quotidian from ten to twelve hours, in the tertian from six to eight hours, and in the quartan from four to six hours. It has been often remarked that as the patient is on the point of recovering, as the result of successful treatment, the paroxysms are *postponed*, or occur an hour or two later every day, until finally they disappear. At the commencement of an attack, when the patient is getting worse, the paroxysms not unfrequently *anticipate*, or occur before the expected hour. As the result of repeated attacks of ague, the spleen becomes greatly enlarged, and may be felt as a hard mass under the ribs on the left side. This readily attracts attention, and is usually known as the "ague cake." Ague is sometimes complicated or modified by other complaints. Thus in summer the patient is apt to suffer in addition from irritation of the stomach, diarrhoea, or dysentery; and in winter from bronchitis or congestion of the lungs. Occasionally each paroxysm is attended with violent delirium, and sometimes even with convulsions.

Is ague a very dangerous disease? No, not in this country. Curiously enough, there is a very prevalent opinion that ague is rather a good thing than otherwise

and this notion may be traced back from the present day to the earliest records of physic. It has with us passed into a proverb that "an ague in the spring is physic for a king," and when this was repeated to James I., he being ill of the disease, he said it might be good for a young man, but would not do for an old one like him. He was quite right, for, as we have seen, it killed him. Sufferers from ague are seldom, even in the intervals of the paroxysms, capable of either much physical or mental exertion. We in England not unnaturally think somewhat lightly of ague, but in warmer climates it affords ample evidence of its appalling powers, and we know only too well that whole armies have been almost exterminated by its ravages. Fortunately nowadays death from ague, or at all events from uncomplicated ague, is very rare in this country.

It is a curious fact that ague exhibits a strong tendency to return, even after it has been apparently cured. People who have once suffered from the disease should be very careful to avoid over-fatigue and exhaustion of all kinds, as the slightest excess in any shape or form will in many cases induce a relapse.

What should we do to avoid taking ague? The most obvious thing is, of course, not to go into a malarious district; but this is a piece of advice which it is not always possible to follow. Should your affairs necessitate your residence in an ague district, even for a short time, there are certain precautions which you will do well to adopt. You will remember that the poison never ascends to any great height, and you will if possible live on high ground, as on the top of a hill. For the same reason you will prefer to sleep in the attic to any room in the house, and if you are obliged to be out at night, you will walk about in preference to lying down. You will remember that the poison is often carried for great distances by the wind, and you will consequently prefer to live on that side of the marsh from which the prevalent wind blows. You will remember that water absorbs malaria, and if you have the choice you will let a tract of water intervene between the source of origin of the poison and your residence. You will remember that foliage attracts malaria, and you will be careful not to sleep under a tree, although you would if possible allow a belt of trees to intervene between you and the marsh. If there happen to be any trees round your house, you of course would not cut them down. You will remember that malaria is most active at night, and you will be careful not to stay out after sunset, and not to go out early in the morning. For the same reason you will see that the windows are closed after nightfall. You will remember that ague readily attacks those who are debilitated, and you will be careful to live generously, but to avoid excesses. You should never go out in the morning without a good hot breakfast; but if you can't get that, a pull at your sherry-flask won't hurt you. A moderate allowance of wine or of some fermented liquor at meals is advisable. Quinine is almost as useful in warding off ague as it is in curing it, and you will do well to take a little occasionally. A table-spoonful of the strong quinine mixture (Pr. 10), or a tea-spoonful of tincture of quinine, three times a day, for a few days, will prove of the greatest benefit. A respirator or the pocket-handkerchief placed over the nose and mouth will on special occasions do much to act as a protective. It is said that by surrounding the head with a gauze veil the action of the malaria is prevented, and that by its use it is possible even to sleep in the most pernicious

parts of Italy without fear of taking the fever. The following summary will, we trust, prove of service.

RULES FOR THE MAINTENANCE OF HEALTH IN AGUE DISTRICTS.

1. Build your house on a height, to the windward side of any swampy ground or marsh, and if possible let a piece of water or belt of trees intervene.
2. Don't cut down the trees round your house, but encourage their cultivation.
3. Sleep at the top of the house, and see that all your windows are shut at sunset.
4. Don't be out after nightfall, and don't go out early in the morning, and never before breakfast.
5. If you must be out at night, don't lie down, and don't stop under trees.
6. Don't drink water over which the ague poison has passed.
7. Live generously, but not too freely, and take a moderate amount of stimulant.
8. Take a course of quinine occasionally.

It is obviously the duty of the master of the house to make his servants and dependents acquainted with the best methods of avoiding ague, if they are new to the country. It would be advisable for him to serve out quinine all round occasionally, and if the purpose for which it is given is explained, no difficulty will ever be made about taking it, particularly if a little spirit and water be added to wash it down.

What is the best method of treating ague? In the first place, is it necessary to send for a doctor? In this country ague is so readily cured that professional aid is hardly necessary, and if you have your wits about you, you can as a rule dispense with medical attendance. In other countries, however, particularly if the people are known to suffer severely from the complaint, you had better send for the best advice you can get.

Supposing, then, you determine to treat the case yourself, what are you to do? In the first place, as regards the fit, what is to be done during the paroxysm? The patient's own feelings are a very good guide. During the cold stage you should cover him up well, apply hot water bottles to his feet, and give him something hot—but not strong—to drink. During the warm stage you will find that he will throw off the bed-clothes, and ask for some cooling beverage, and there is not the slightest objection to his having it. During the sweating stage he is comparatively comfortable, and there is nothing to be done except to wipe the skin dry, if the sweating should be very profuse. Above all, don't interfere too much. Don't keep on talking to him under the impression that you are doing him good, for you are in all probability worrying him to death. When a man is really ill he doesn't want to be bothered with questions. It is no good asking him where he thinks he got it, or worrying him every moment about how his head feels now. It is easy enough to talk when you are well, but when you've got the ague you've something else to do. Sit down by the bed-side quietly, and if you can help the patient do so, but don't be officious. You must remember that in ague there is often a good deal of irritation of the bladder, and that in certain cases your occasional absence from the room would be desirable.

Now what is to be done when the fit is over? A good many remedies have at one time and another been recommended for ague, but quinine is our sheet-anchor.

Before we had quinine we used bark, and before bark camomile-flowers, and calomel, and bleeding, and all kinds of things. Some years ago, a favourite remedy for ague was a spider's web, and there are many people still living who will remember having been given in their youthful days a great big black spider wrapped up in a split raisin, for the cure of this complaint. It is quite possible that by the powerful impression it made upon the mind, it may have been efficacious in warding off an approaching fit.

Nowadays we always give quinine; always, that is to say, if we can get it, for on foreign service it sometimes runs short. In the case of a first attack you will do well to assume that the type is quotidian, that is, that the patient will have a fit every day. You must manage to give thirty grains of quinine between the termination of the first paroxysm and the time on the following day at which the second may be expected. You must give the first dose of ten grains towards the termination of the sweating stage, and you must give your last ten grains about two hours before the next fit is due. The strong quinine mixture (Pr. 10) contains five grains in the ounce, so that your dose of ten grains will be contained in two ounces or four table-spoonfuls. Let us take an example. Suppose the first fit to begin at ten o'clock in the morning. It will be almost sure to be over by eight in the evening, or perhaps earlier, and you must then give your first dose of four table-spoonfuls of the strong quinine mixture. About one or two in the morning you will give your second dose, and your third and last dose at eight o'clock. What else is there to be done? If the bowels are confined you had better get them open by a calomel pill (Pr. 61) given at bed-time, but this is of course not necessary in every case. Some people strongly recommend the use of emetics in ague, but they are not often required. If the tongue is very foul, or the stomach loaded with food, they may be useful and you may give relief by an emetic dose of ipecacuanha wine; but it should be distinctly understood that such cases are exceptional. Sometimes the stomach is so irritable that it won't retain anything, and the quinine is thrown up as soon as it is taken. What is to be done in this case? The quinine *must* be given, and if the stomach won't tolerate it, it must be administered by the bowel. There is not the slightest difficulty in giving an injection, but if you don't understand how to do it you had better get some one who does. The quinine mixture may be poured into about a tea-cupful of beef-tea or gruel, and then injected. Don't use too much fluid, for it will only be rejected, and the medicine wasted. If this treatment doesn't succeed in arresting the progress of the complaint, you must wait patiently till the next fit is over, and then try again. Should you, however, succeed in preventing the recurrence of the fit, you may consider that you have done very well; but for all that your work is not yet over. The patient should take two table-spoonfuls of the strong quinine mixture, in other words, five grains of quinine every four hours, until he is pretty fully under the influence of the drug. When he tells you that he has a ringing in the ears you will know that he is suffering from "quinism," or "cinchonism," as it is called, and that he has had enough, and that you may discontinue the drug, or at all events give a smaller dose less frequently. The phenomena which constitute cinchonism will be described when we speak of quinine. If the patient have no more fits you may consider that you have cured him; but if

he is not careful he will have a relapse. The most likely time for a relapse is a lunar month from the date of the first attack, and preparatory to this the system should again be brought under the influence of the quinine. An old West Indian, who has suffered much from ague, informs us that the best way to take large doses of quinine is in a cup of green tea. He says, too, that in the tropics you require much more quinine to produce the constitutional effects of the drug than you do in England.

But what is the patient to have in the way of diet all this time? Just at first you must support his strength by milk, plenty of good strong beef-tea, and other similar nutritious substances. An occasional glass of hock or champagne, or a little brandy and soda, won't do him any harm; but if you give him wine it must be good. You can't expect to get cured of the ague on eighteen shilling claret. As soon as the fits are subdued, the patient may have anything he likes to eat in moderation, and care should be taken to see that his strength is supported. You can't fight a fever on an empty stomach.

And what about complications? Well, don't trouble very much about them, but go on treating the ague. Cure the disease, and the concomitants will get well of themselves. Don't be induced on any account to give up the quinine for the sake of a cough-mixture or anything of that kind, or you will suffer for it. At the same time, if any serious complication is suspected, you had better get in a doctor without delay. If there is at any time much irritation of the bladder, a little bicarbonate of soda may be given.

What is to become of the patient when he gets well? Of course he must not stop in the malarious district. A change of scene, nutritious diet, and plenty of exercise in the open air, will usually soon make things all right again; but if there is any return of the symptoms, recourse must be had to the quinine in moderate doses. A couple of table-spoonfuls of the tonic quinine mixture (Pr. 9) three times a day may be taken with advantage.

But suppose quinine fails to effect a cure? Such cases do undoubtedly occur. The addition of ten minims of the tincture of gelseminum to each of the three doses of quinine should then be tried. A combination of quinine and gelseminum will often prove successful when quinine alone has failed. There is no doubt that even by itself gelseminum is a very valuable remedy for ague.

The objection to quinine is that it is a little bit expensive for poor people. In the French army they give arsenic because it is cheaper. As we have said before, economy in medicine is only another name for reckless extravagance. Arsenic is a good remedy for ague, although it is far inferior to quinine. We must say, however, that it has sometimes succeeded where quinine has failed. Five drachms of the arsenic mixture (Pr. 40) may be given three times a day. Sometimes it may be used as an adjunct to quinine. Thus, when the complaint has been checked by quinine, the cure may be conveniently completed or confirmed by a little arsenic. Or on the other hand, when little benefit has been experienced from quinine, the arsenic may stop the fits, and quinine may then serve to prevent their recurrence.

Salicine, obtained from willow-bark, is sometimes used in the treatment of ague, when from any reason quinine is not obtainable. Thirty grains dissolved in an

ounce and a half of water should be taken every two hours. Little or no benefit will be derived from smaller doses. The decoction of willow-bark itself may be used, and fortunately the willow abounds and flourishes in marshy places.

We have not spoken definitely of the use of bark in the treatment of ague, for of course it will be understood that quinine is the active principle of, and is obtained from, cinchona bark.

In conclusion we give a summary of the best method of treating ague.

RULES FOR THE TREATMENT OF AGUE.

1. No active treatment is required during the fit.
2. Between the fits give three ten grain doses of quinine.
3. Support the strength by milk and beef-tea and a moderate allowance of wine.
4. If the bowels are confined give a calomel pill.
5. If the quinine does no good, add ten drops of tincture of gelsemium to each of the three doses.
6. Should this not succeed, give the arsenic mixture three times a day in five drachm doses.
7. Resume the treatment a few days before the expiration of a lunar month.
8. On recovery, change of air, good feeding, and plenty of exercise are necessary.

ALCOHOLISM.

By alcoholism we mean the condition which is induced by over-indulgence in alcohol. It may occur either in a chronic or an acute form. Acute alcoholism is only another name for delirium tremens, and we will describe it in detail under that heading. It is of chronic alcoholism that we are now about to speak. We know of no other name for it, but it is from this complaint that we wish to indicate that a man is suffering when we say that he is a tippler.

What are the causes of alcoholism? We can sum them up in one word—drink. But how is it that some people “take to drink” whilst others show no inclination to do so? This is the question we will now consider.

It is a very general opinion amongst medical men that a tendency to alcoholism is, in a certain sense, hereditary, and the children of a drunken father or mother are very likely to be drinkers. Undoubtedly the force of example is not without its influence, but still there is something over and above this. We frequently find that of the children of intemperate parents, one is a drunkard, a second an idiot, and a third suffers from fits, whilst the remainder exhibit other forms of nervous disturbance. We believe that the majority of the most inveterate and hopeless cases of alcoholic excess occurring among the higher classes of society, are produced less by the circumstance of external momentary temptation in which the patient is placed, than by an inherited weakness of the nervous system, which renders all kinds of mental and bodily trouble especially hard to be borne. Occupation is undoubtedly a powerful predisposing cause of alcoholism. In hospital practice we find that a large number of cases are distinctly traceable to the frequent presence of temptation, as for example, in workmen at breweries and distilleries, and potmen and waiters at taverns. In a somewhat higher grade of life, public-house keepers, and the clerks and travellers for wine and spirit houses are very liable to alcoholism. Gentlemen's servants, and especially butlers, afford a fair proportion of cases.

Then again poverty often leads to drink. The home is wretched, and the man resorts to the gin-palace. He sleeps in a close, badly-ventilated room, and gets up in the morning suffering from headache, and a feeling of listlessness and depression. He seeks temporary excitement in a dram, and the day so commenced is often continued as it was begun. There is a very common opinion that drink is the simple and uncomplicated cause of the greater number of crimes committed by the poor. The truth is that in recognising the indisputable fact that drunkenness is often followed by crime of a worse kind, we are apt to overlook a large portion of the history of the criminal, and especially the wretched poverty in which he is usually reared. The demoralising influence of this poverty is the central fact on which we ought to concentrate our attention ; it is a common cause of general reckless behaviour, of which drunken habits are only a part, although they undoubtedly render the commission of fresh crimes more probable. People who are under-fed, or who have their meals badly cooked, or at irregular intervals, often exhibit an intense craving for alcoholic stimulants. Starvation—actual severe deprivation of food—cannot be a positive predisposing cause of drunkenness, for the opportunity of getting liquor is cut off by the extreme degree of poverty which brings about such a state of things. It is rather the continual sense of embarrassment of and misery consequent on the difficulty or impossibility of paying debts, so common in the lowest ranks of the middle classes, which provokes the habits of drinking.

A monotonous life often leads to alcoholism, and this is more frequently the case in the upper and middle classes than in the lower, and more frequently in women than in men. Take the wife of a professional man, without children, for example. When her husband has gone out in the morning to his business, whatever it may be, she feels lonely and depressed, she has nothing much to do, and soon gets tired of her ordinary amusement, reading or sewing. She feels dull and listless, and what more natural than that she should resort to the chiffonier for a little temporary stimulus. Generally it begins with a glass of sherry or port, but gradually it grows on her and becomes almost a necessity, and the dose has to be increased to produce the desired effect. The want of active out-door exercise represses elimination, and much increases the evil. It may be thought that this statement is overdrawn, but it is not ; we wish it were. Every doctor in the course of his practice has met with scores of such cases. We have known women who would drink their eau-de-cologne if they could get nothing else.

Inclemency of weather is another predisposing cause. A man is a cab-driver, out in all weathers, wet and fine. He gets wet through, and has no means of changing his things, but has to stand about, or sit on his box, perhaps in a biting east wind. It is hardly to be wondered at if he tries to put a little warmth into his body by a glass of gin or whiskey. It is of no use telling him that alcohol lowers his temperature, and that it lets in the cold instead of keeping it out. You may prove it to him most conclusively in your own way, but if you finish up by asking him what he will take, he will probably choose alcohol in some form or other.

Long-continued pain sometimes makes people seek ease in alcohol. This is the case very often with young women who suffer from neuralgia. Those who have vague uneasy feelings about the stomach sometimes endeavour to relieve them by

wine or spirits. The depression and faintness attending the menstrual period in some women, and the debility and low spirits which often distress nursing mothers, may lead to the use, or rather abuse, of alcohol. Women who have a tendency to be hysterical, have often a craving for strong drinks, which should be most carefully kept in check.

In the higher classes of society we not unfrequently see men who have failed in some cherished speculation, or women who have lost the only object they cared for in life, take to drink with an almost insane vehemence, although they may never have shown any such tendency before. It is not that there is any particular temptation in the taste of the drinks to which they have recourse, for it is a fact that even the most refined and delicate women, when they resort to these practices, do not drink wine, but brandy or gin, or some equally coarse and strong spirit. It is a mere accident that leads them to select alcohol: under other circumstances they would take opium or hashish, or any other intoxicant which they could most conveniently obtain, or they would plunge into the indulgence of some special vice, or resort to any form of excitement which would promise them oblivion.

Often enough there is nothing which can be regarded as a predisposing cause of alcoholism; and yet people take to drink. They have a liking, nay, an earnest longing, for it, and they will do almost anything to gratify their desire. Some people never drink except in company; with others the mania is for secret drinking. It is difficult to say which practice is the more pernicious.

Now as to the symptoms induced by the continual excessive indulgence in alcohol. Nothing more surely undermines the constitution. One of the first symptoms is indigestion and want of appetite, especially for breakfast. If a man can't eat his breakfast it is a bad sign—there must be a screw loose somewhere. Then there is a little tremulousness of the hands, and about the legs. Tell the fellow to hold out his hand, and you will see how shaky he is. He may keep it quiet for a time by a great effort, but never for long. A man's hand should be as steady as a rock. You find on inquiry that he is restless at night. He tells you he can't sleep; he turns and twists about hour after hour, and dozes a bit, but never goes right off. The slightest noise wakes him, and he hears every hour strike. Very often he dreams the most horrible dreams, and acts and re-acts all the events of the day over and over again. The brain, he says, is always on the work, and he can't rest. He complains of noises in the ears, feels giddy, and sees specks or bright lights floating before his eyes. There is never any distinct hallucination, as there is in delirium tremens. Another prominent symptom is morning vomiting, or perhaps a little retching before breakfast. If a person tells you he is always sick the first thing in the morning, directly he gets up, you may be pretty sure that he drinks. You must, of course, exclude the case of women who are pregnant or suffering from some disorder of the womb, as that would be quite sufficient to account for it. Tenderness of the feet is another indication of alcoholism. You see old drinkers going about in their slippers all day long. These people are often great sufferers from piles.

You can often recognise a drinker from his general appearance. Curiously enough, some people get fat on drink, whilst others get thin. You may meet with

every degree of fatness, from the unwieldy bulk of the country publican, who fuddles himself with beer, to the slight frame of the London hairdresser, who often enough makes away with two or three quarters of gin or rum in a day. You can often tell that a man drinks by his face. It is flabby and bloated, with red watery eyes, the whites of which have a tendency to become yellow from slight jaundice. Every one recognises the significance of a red nose, although in certain exceptional cases this condition arises from mere dyspepsia. The smell of the breath is usually very characteristic, and there is no mistaking it, even if spirits have not been recently taken.

The first thing to be done in the treatment of chronic alcoholism is to knock off the drink entirely. If you are not prepared to do this, it is of no use going further into the matter, for we can do you no good. This is a point on which we must positively and absolutely insist. But this alone is not enough; you will have to take medicine as well. A very good prescription is the following:—Epsom salts, one ounce; infusion of quassia, eight ounces; mix. Two table-spoonfuls three times a day. We have given this in hundreds of cases, and with the greatest success. It does not as a rule purge. Sometimes it is advisable to add five drops of tincture of nux-vomica or two grains of sulphate of iron to each dose. Very often a table-spoonful of the tonic quinine mixture (Pr. 9) taken three times a day answers admirably. When morning vomiting is the chief symptom a small tea-spoonful of the arsenic mixture (Pr. 40) three times a day is the best remedy. The first dose should be taken in the morning before rising. Very often the great trouble is the persistent wakefulness and the appearance of black specks or flashes of light before the eyes. It would be a mistake to take any narcotic, such as laudanum, with the view of inducing sleep, for it often does more harm than good. The prescriptions we have already given will generally remove this condition in a day or two. Should they prove insufficient, it is a good plan to take half a drachm of ether in a wine-glassful of water three times a day, or a single dose of a drachm at bed-time. Another good remedy is bromide of potassium—two table-spoonfuls of the mixture (Pr. 31) three times a day, the last dose being taken on retiring to rest. Sometimes it upsets the stomach and cannot be taken, but this difficulty is not of frequent occurrence. The oxide of zinc pills (Pr. 66) have often a powerful effect in inducing sleep. It is best to take one twice a day, and two at bed-time. They should be taken shortly after a meal, and never on an empty stomach, or they may produce nausea. But a medicine which is quite as effectual in many cases is good bottled stout taken in one single dose of half a pint at bed-time. This is the only exception to the rule that no alcohol is to be taken. When the more prominent and distressing symptoms have been relieved, but the patient is still suffering from the effects of his indiscretion, hypophosphite of lime does good. The dose is from one to two table-spoonfuls of the mixture (Pr. 54) three times a day. Phosphorus pills, each containing one-tenth of a grain, usually succeed equally well; or the capsules, or the phosphorus solution may be used (Prs. 53 and 55). Cod liver oil taken systematically three times a day for a couple of months or longer will do much to restore the general condition of the health.

We have no intention of entering into the question of drink as a national vice. It is a subject too vast for discussion in a work on domestic medicine. We have,

however, no hesitation in saying that if we could provide better and healthier dwellings for the poor, there would be a great decline not only in the amount of drunkenness, but of other forms of crime with which it is associated with such frightful frequency. Dickens once said:—"Gin-drinking is a great vice in England, but wretchedness and dirt are a greater; and until you improve the homes of the poor, or persuade a half-famished wretch not to seek relief in the temporary oblivion of his own misery with the pittance which, divided among his family, would furnish a morsel of bread for each, gin-shops will increase in number and splendour. If Temperance Societies would suggest an antidote against hunger, filth, and foul air, or could establish dispensaries for the gratuitous distribution of Lethe-water, gin-palaces would be numbered among the things that were."

ANÆMIA, OR POORNESS OF BLOOD.

Anæmia, or poorness of blood, is of frequent occurrence not only as a distinct disease, but as a symptom of many other diseases. It is a chronic complaint, and is so common in London and other large towns that you cannot walk down Regent Street any afternoon without meeting with literally dozens of cases. It occurs more commonly in women than in men, and more frequently in young people than in old. The majority of cases are seen in young women of from fifteen to twenty.

The symptoms are usually well marked, and no difficulty is experienced in recognising the nature of the complaint. There is always more or less pallor of the face and lips, which is very characteristic. It is quite distinct from the bilious yellow colour you see in jaundice, and has rather a tendency to shade off into olive. In some cases of anæmia this paleness of the face may be obscured by accidental circumstances. For instance, you would not observe it in people who had been browned by exposure to the sun, and probably not in cooks and others who spend much of their time over the fire. The nature of the case is, however, at once apparent if you examine the skin of the neck or some other part of the body protected from exposure. Another good way of detecting the presence of anæmia is to look at the nails, or to turn down the lip or lower eyelid, and see if they present their natural red colour, or are paler than usual. In turning down the eyelid you must be careful not to make it tense, or you will drive the blood out of the part, and you may be deceived by the pallor so caused. In cases of anæmia there is generally a little puffiness not only about the face but about the legs and ankles. There is no fever, but the pulse is usually increased in frequency, and is small and weak. The circulation is languid and depressed, and even slight exertion will bring on palpitation of the heart. Headache is very common, and is usually felt over the region of the temples, and at the top of the head. As a rule it is not an intense or an agonising pain, but a dull heavy sensation, as if something were pressing down and out. It is increased by abstinence from food, and by the erect posture, but is better on lying down. It usually comes on in the morning whilst dressing, goes off after breakfast, and comes on again before lunch or dinner, and so on. It is aggravated by exertion, and is of a throbbing character. It is sometimes accompanied by a feeling of fullness and weight, and by noises in the ears, and a sense of pulsation all over. The noise in

the ears is on both sides, is rumbling and low-pitched, and is often described as being like cart-wheels in the distance. It is intensified by any mental effort, such as thinking, or reading, or writing. There may be occasionally a little giddiness for a minute or two, and things may seem as if they were going round and round. The muscles are weak, and a difficulty is experienced in making any prolonged or forcible exertion. From the defective state of the circulation the fingers are often blue, and the patient complains of "pins and needles." The patient is usually a little lethargic and disinclined for exertion, and the relations between sleeping and waking are apt to be upset. The appetite is probably poor, and it often happens that nothing but a cup of tea with perhaps a little bit of bread-and-butter is taken after the early dinner. At bed-time the patient is depressed for want of food, and probably passes a sleepless, restless night. The next day the requisite rest is taken in the arm-chair, or the patient has his "forty winks" on the sofa, and so the thing goes on. The secretions are more or less disturbed, the urine is thick and forms a deposit on cooling, and the bowels are sluggish, constipation sometimes alternating with diarrhœa. The pooriness of the health may give rise to great despondency. Anæmic people often take on odd fancies and do odd things, and are very apt to get strange notions into their heads. They often have specks before the eyes, or, perhaps, little bright shining spots. Sometimes they see spectra, and sometimes their sight is peculiarly affected so that they see only halves of things. They are very apt to suffer from confusion of ideas, and feel stupid from noises in the street. Very frequently in women there is some disturbance of the menstrual function, the periods being scanty or altogether absent. Anæmia is said to be a common cause of barrenness.

The conditions which may give rise to anæmia are very numerous. In the first place it may have been caused by loss of blood, which may have arisen spontaneously or as the result of accident. It matters little from what part of the body the blood flows, the result is the same. For instance, a vessel may have been cut across by a stab, or the patient's nose may have been bleeding, or he or she may have been spitting up blood from the lungs, or vomiting it from the stomach. In the case of women the periods may have been excessive either in quantity or frequency, or there may have been excessive bleeding at a confinement. The continuous loss of blood from piles may give rise to anæmia. Then again, although there may be no loss of blood, there are other ways in which the strength may be exhausted. A woman may continue to suckle her child long after her health has shown signs of giving way, probably thinking that in this way she may succeed in warding off another pregnancy with its attendant trouble and expenses. Anæmia is very readily produced by the "whites," or any discharge of a similar nature. The result is the same when the natural secretions are in excess, as for instance in chronic diarrhœa, or in diabetes where very large quantities of water are passed. When there is no excessive discharge to account for the presence of anæmia, it may be found to depend on a defective supply of food. It is not, so to speak, the expenditure which is in excess, but the income which is deficient. It is to be feared that even in the middle classes of society the number of people who from some reason or the other are unable to obtain a proper supply of food is very great. Where the quantity is sufficient,

the quality may be bad, or there may be a want of variety. Even where the food is obtainable in abundance the patient may have no appetite, and may be unable to eat it. We may even go a step farther, for the patient may eat his food and yet from the presence of some disease or disorder of the stomach may not digest it. Anæmia may result from a deficient supply of daylight. The patient becomes blanched just as many vegetables do when grown in the dark. Many chronic diseases, such as cancer, are attended with anæmia. It commonly occurs in people suffering from ague. It is produced in the course of slow poisoning by many metals, as for example, lead, mercury, arsenic, and copper. As we shall presently see, iron is the great remedy for anæmia; but iron, when taken into the system in large doses and for long periods, proves a powerful agent in the production of this complaint. Blood-poisoning, as the result of over-indulgence in alcohol, whether in the form of beer, wine, or spirit, may give rise to anæmia, and so may excessive smoking. Over-work is a very common cause, and it is said that taking excessive exercise may be attended with the same result. Running up and down stairs has been found in many cases to produce anæmia, probably because during the effort the chest is fixed and respiration is interfered with. Working at a great elevation, or at a great depth, as in mines, produces poorness of the blood, as does working in a constrained position, like a tailor or cobbler. Worry, anxiety, and mental and moral disturbances have all a similar effect, and so has long-continued pain, such as you suffer from in neuralgia. A well-known physician, speaking of anæmia says:—"The sufferers are the victims of our subterranean kitchens, and back shops, and of that atrocious domestic system which deprives young women in service of open-air exercise and enjoyments peculiar to their age. Secondly a depraved appetite arises, and tea with bread-and-butter comes to form their sole diet, as all healthy desire for meat soon vanishes. These devitalised plants which never see the sun languish in nervous power and furnish our worst cases of hysteria."

When marked anæmia occurs in young women about the age of puberty, it is often spoken of as "chlorosis." Chlorosis is commonly associated with some disturbance of the menstrual function, but there is no essential difference between chlorosis and anæmia. The causes by which it is produced are those to which we have already referred. Chlorosis is sometimes called the "green-sickness," from the excessive pallor of the face. It is not uncommonly an accompaniment of hysteria. Young women suffering from this combination often display a perverted or even depraved appetite. They often fancy acids and highly-seasoned foods, and sometimes they swallow and apparently relish such substances as chalk, paper, ashes, coals, plaster of Paris, hair, and earth. There is generally some disturbance of the organs of digestion, and not uncommonly the breath is very offensive. Menstruation is absent or performed imperfectly, irregularly, and with pain, and the flow is thin and watery, or mixed with "whites." The periods are not only irregular in their return, but inconstant, of short duration, deficient in quantity, and pale in colour.

Anæmia is often confounded with consumption, and many of the cases of cured consumption of which one hears so much are in reality nothing but cases of anæmia. We don't mean to say that consumption is not curable, but it is just as well to make sure that the sufferer is really consumptive before attempting to cure that

complaint. It is undoubtedly a great thing to be assured that you have been cured of consumption, but you would naturally feel far more thankful to learn that it was all a mistake, and that you never had consumption at all. There is no difficulty in distinguishing anæmia from consumption. In anæmia the patient does not look consumptive, at all events to the practised eye, and in spite of the paleness and delicate appearance, there is neither loss of flesh to any extent, nor fever. In all doubtful cases a physician should be consulted, for by a simple examination of the chest he may be able to assure you that everything is right, and that you are neither consumptive nor in danger of becoming consumptive. There are thousands of women in England, wives and mothers of children, who, because they were anæmic when they were about seventeen, were thought to be "weak about the chest," and were said to be "going into a decline." The fact is that anæmic people seldom become consumptive, and the two conditions are apparently antagonistic. A few years ago a physician carefully examined one hundred and twenty-five people who were suffering from marked anæmia, and in not one of them was a trace of consumption to be detected.

Is anæmia curable? Undoubtedly. And chlorosis? Quite so. And it's nothing to be alarmed about? Not at all. And people don't die from it? Not a bit; they couldn't if they wanted to. And what is to be done to get rid of it? In the first place you should try and find out what it arises from. Perhaps you don't get out much. A good brisk walk in the Park every morning will do you all the good in the world, and if you can get a pleasant companion to accompany you, so much the better. Possibly your work keeps you in till it is dark, and then you don't care to go out. Never mind, you had better get out; a walk in the dark will do you more good than no walk at all. Only take care that you don't over-exert yourself just at first. Your appetite is bad, and you don't care much for anything? Well, you must try and live a little more generously. You are an over-worked student, and have been poring over your books too much lately, reading for that wretched examination. Just put your books aside for a bit, and jump on the top of a bus, and have a good blow, or run down to Kew or Richmond on one of the boats. Don't hesitate to accept an invitation to dinner if any one will ask you. Well, if no one will "do the civil," you might invest a couple of shillings and go to the theatre, only go and see a good comic piece, not a tragedy. You had better go in the pit, and not in the stalls: you won't have the bother of dressing, and it will do you ever so much more good. Oh, you think you've been smoking too much lately? Well, you look as if you had. You know, you'll have to knock it off. No, not altogether, but three or four pipes a day will be quite enough just at present. And you must give up that strong cavendish, you really must. Try returns, or at all events something mild. Did we ever hear of any harm come of giving up smoking? No, never, and we don't believe that your health would suffer in the least if you never smoked another pipe in your life. Is brandy and soda a good thing to take in the morning? No, wretchedly bad; it's poison to you. B. & S. has been the ruin of many a man. If you didn't drink so much overnight you wouldn't feel the want of it in the morning. Only took four glasses of whiskey cold last night? And far too many. Where do you expect you'll go to if you go on drinking in that way?

It ruins you in pocket and it ruins you in health. And you, sir, you neither smoke nor drink? What can we do for you? Have piles, have you? Had them for the last thirty years? Ever since you were at college? And bled very much every morning, after you have paid your usual visit? Well, no wonder you're anæmic. Just turn to what we said on piles, will you? Yes, hamamelis will probably be the remedy for you. We'll stop the bleeding, and then we'll see about curing the anæmia. Think the water is bad, do you? Have been told that it contains lead? Very likely. You had better have it seen to, and don't drink any more of it till you are sure it's all right. Keep to beer or light claret for a time.

Well, now you've removed the cause of your anæmia, what are you to do next? You must take iron. Iron is the remedy *par excellence* for anæmia. You've taken it already, have you? Well, you'll have to take it again; you probably didn't take enough of it. But you don't like iron? It can't be helped, you'll have to take it whether you like it or not. But it's sure to upset you? No, it won't, not if you take it in the way we are going to tell you. You will have to try those sulphate of iron pills (Pr. 63) we recommended when speaking of the preparations of iron. They are the best remedy we know for anæmia, and they hardly ever upset the stomach. You don't like pills? Well, these are not at all nasty to take, and they haven't a bit of smell to them: well, very little at all events. And see how beautifully hard they are: you might almost give them to the children to play marbles with. If they are so hard, they must be insoluble, and can't do any good? Not at all; just get a tumbler of water and drop one of them in, and you will see how quickly it dissolves. That reminds us that we once knew a patient, a young lady, who really couldn't take these pills; they wouldn't go down, she said. And what did she do? Why, she took a tumbler of water, just as you have been doing, and dissolved one of them up, and drank the solution. And would they act as well that way? Every bit as well, only if you want to take sulphate of iron in water there's no occasion to make it up into a pill first. You don't like the taste of it? Tastes like ink, does it? Well, of course, all iron preparations do more or less, and ink is made with iron; in fact, with sulphate of iron, the very salt you have here. Then ink might do good in anæmia? Quite so; in fact, years ago there was a physician who was in the habit of prescribing a mixture of iron which looked so much like ink that people called it after him "Heberden's ink," and he really cured a good many cases with it. And there are other preparations of iron? Just so; and by-and-by, in the *Materia Medica*, we shall have to enumerate a great many, and discuss their respective merits. If you don't like the pills you needn't go on with them, only don't give them up without a fair trial—say one twice or three times a day for at least a fortnight. Yes, the tincture of steel, or tincture of perchloride of iron, as we commonly call it, is a capital preparation. You may take it alone in a wine-glassful of water, say thirty drops three times a day; or if you like it better, you may take it in the form of one of the mixtures (Prs. 1 and 2). But wouldn't some of the milder preparations, such as the tartrate of iron, or the citrate of iron and quinine, do equally well? We think not; we have always seen more benefit derived from one of the more astringent preparations, such as those we have recommended. Very often it is well to humour the stomach, and to change the

form in which you take your iron. You might lead off with the pills—we have great faith in those pills—and then go on to Prs. 2, 3, 6, and 7.

Mineral waters containing iron undoubtedly do good in anæmia, especially when you drink them at the source. Very likely the change of scene and the difference in living have something to do with the improvement, for the quantity of mineral in any of these waters is very small. You find “ferruginous” or “chalybeate” waters, as they are called by people who like long names, at Pyrmont, Spa, Schwalback, Tunbridge Wells, Harrogate, and many other places. The waters of Sand Rock, Isle of Wight, contain sulphate of iron, the salt of which those pills are made.

And is it a fact that some people really can't take iron? Well, we suppose it is—in fact, there can be no doubt about it. What does it do to them? It upsets their stomachs, and produces pain and fulness in the head. Do we know of anything that will do them any good? Yes, but nothing which at all equals iron. They should try the quinine or quinine and iron mixtures (Prs. 9 and 11). They often prove of great benefit to the pale badly-fed inhabitants of large populous towns. Then there is the hypophosphite of lime, of which we have spoken favourably. It usually does more good in young than in old people. Phosphate of lime is useful in the anæmia of boys and girls who have outgrown their strength. It is also of service in the case of women weakened by rapid child-bearing, prolonged suckling, or excessive menstruation. Sometimes small doses of arsenic (Pr. 40) will do good, especially when the anæmia has arisen from an excessive discharge of some kind, and when it is accompanied by shortness of the breath and excessive languor. Pulsatilla is indicated when the periods are scanty or absent, when there is loss of appetite or taste, and when there is a tendency to relaxed bowels. These remedies may, and probably will, do good, but none of them are equal to iron, or will act with equal quickness and certainty.

And is this all that there is to be done? Very nearly. There are certain accessory measures, such as the morning tub, sea bathing, a good gallop across the downs, and so on, but these would so obviously prove beneficial that we need not refer to them at greater length. What about the headache and noises in the ears? These will take their departure as soon as you get rid of the anæmia. As we have already said, the headache you suffer from before breakfast is due to faintness. Take a cup of tea and a piece of toast, or a glass of rum and milk before getting out of bed, and that will generally ward off the headache. When you get tired of plain rum and milk try this:—Dissolve in a little hot water over the fire a pinch of the best isinglass, let it cool, and mix a dessert-spoonful of rum with it in a tumbler, and fill up the glass with new milk. This gives a pleasant variety.

ANEURISM.

An aneurism is a tumour containing blood, either formed by the dilatation of an artery, or communicating with an artery. It may occur on any artery in the body but is more commonly found in the chest in connection with the aorta, the large vessel which carries the blood from the heart. An aortic aneurism may vary much in size, and it may at first be quite small and subsequently increase till it is half as big as the fist. At first it is contained quite in the chest, so that nothing can be

seen of it externally, but by-and-by it may press out the ribs or breast-bone, and cause a swelling on the front of the chest as big as an egg or a small orange. At first, too, the symptoms to which it gives rise may be very obscure, and its presence can be detected only by a careful examination by a skilful physician. Afterwards, when it comes nearer the surface of the body, comparatively little difficulty will be experienced in recognising its nature. The great thing is not to mistake it for an abscess. An aneurism has before now been opened on the supposition that it was an abscess, the patient quickly bleeding to death.

Our account of aneurism must of necessity be short, not because it is an unimportant disease, but because it is essentially unsuited for domestic treatment. Any one who thinks that he has an aneurism should consult a doctor in order that, if it exist, appropriate treatment may be commenced, or that if non-existent the harassing suspicion may be removed. Aneurism occurs most frequently between the ages of thirty and forty. It is met with almost exclusively in men, and especially in individuals whose muscular system is called upon to make sudden, violent, and intermittent exertions, as for instance in those who habitually lead sedentary lives, but occasionally take a change and indulge in sport, such as hunting, rowing, or a long day's shooting. It is comparatively rare in those whose work, although laborious, is steady and continuous. If you are not over thirty, if your work is moderately uniform in character, or if you are a woman, it is extremely unlikely that you have aneurism, whatever your symptoms may be. It must be remembered that aneurism in any form is not a common complaint, although it occurs more frequently in Great Britain and Ireland than in any other country.

The symptoms to which aneurism in the chest may give rise are very variable, and the majority are common to many complaints. Sometimes they are closely simulated by simple indigestion, and it would be difficult for any one not a medical man to distinguish between them. Usually when the tumour is large or is increasing rapidly in size, there is some disturbance of the heart's action, and one or both arms become distinctly dropsical. Sometimes the tumour presses on the wind-pipe, causing shortness of breath, or on the gullet, giving rise to difficulty in swallowing; sometimes in addition to shortness of breath, there is considerable wheezing, and a particularly troublesome cough. Aneurism usually causes pain either in the back or beneath the breast-bone; moreover, it generally affects the pulse, rendering it altogether imperceptible or much weaker on one side than on the other. Sometimes it gives rise to spitting of blood, which may be very profuse. It should be understood that the existence of two or three of these symptoms would be no indication of the existence of aneurism, and that unless several are distinctly present, they are probably due to some other complaint. —

Even in such a serious disease as aneurism much may be done in the way of treatment. The agents on which more especially we rely are rest and limited diet. By rest we mean not merely abstinence from hard work, but absolute rest in bed in the recumbent posture. In some cases, this has been uninterruptedly maintained for many months, and with the happiest results. Confinement to bed is undoubtedly at first a great hardship to a person who has been accustomed to an active life, but it is wonderful what habit will do, and we have known people,

happy, contented, and cheerful under the circumstances. The patient may be allowed to sit up in bed cautiously to take his food, but at other times he will have to remain in the recumbent position. He is in no way debarred from the society of his friends, and may read and be read to, and although he cannot write his letters himself he may dictate them. Bed-sores must of course be carefully avoided, but they are easily guarded against by a little attention and the daily examination of the back. The diet is restricted to three meals a day taken at regular intervals. Usually it consists of two ounces of white bread-and-butter, with two ounces of cocoa or milk, for breakfast; three ounces of broiled or boiled meat, three ounces of potatoes or bread, and four ounces of water or light claret for dinner; and two ounces of bread-and-butter, and two ounces of milk or tea for supper; in all ten ounces of solid and eight ounces of fluid food in the twenty-four hours. We do not mean to say that these weights and quantities are to be strictly observed, or that every article of food must be weighed, but they serve to indicate about the amount of food that should be taken. The object of this restriction in diet is to lessen the volume of blood, and reduce the activity of the circulation so that a deposit from the blood may take place in the interior of the tumour and so reduce its size.

This dietetic treatment is often combined with the internal administration of iodide of potassium. Five grains may be given three times a day, and gradually the dose may be increased to ten, fifteen, or twenty grains. We have at the present time under observation a man with aneurism of the aorta, who has remained in bed for the last eighteen months, and has taken iodide of potassium the whole of that time, with very great benefit. When palpitation is a prominent symptom the addition of five minims of tincture of aconite to each dose may do good. When the pain is great it may have to be allayed by laudanum, or by hypodermic injections of morphia. When the tumour protrudes on the surface of the body, it should be covered with belladonna plaster spread on leather to protect it from accidental injury.

Should the method of treatment we have indicated fail to effect a cure or alleviate the symptoms, it may be necessary to resort to surgical measures. An electric current passed through the tumour by means we need not describe in detail is often attended with the happiest results. The application of a bag of ice to the tumour for an hour once or twice a day often does good. We remember one case in which it afforded the patient very great relief.

Occasionally an aneurism bursts, and then, as a rule, nothing can be done.

ANGINA PECTORIS.

Angina pectoris, or the "suffocative breast-pang," as it is sometimes called, was first described by the celebrated Dr. Heberden, in the year 1768. The symptoms consist of paroxysms of intense pain about the chest, accompanied by a sensation of impending death. The paroxysm quickly reaches its climax, and is relieved, or disappears entirely, in a few minutes, or at the most within an hour. The attacks recur at uncertain intervals, sometimes without any obvious cause, at others as the result of exertion. The pain is peculiarly liable to be excited by walking up-hill,

or in the face of a strong wind, and then usually ceases immediately on standing still. It is instinctively associated in the mind of the sufferer with the idea of a particularly severe form of oppression or suffocation, or rather with some indefinite sense of impending danger, which is simply indescribable. The patient is not merely suffering, but he feels that the very springs of life are implicated, and that under a prolongation or increase of the pain the whole fabric of life must give way. It is from this sense of impending dissolution, and from the fact that death may occur at any moment, that the disease derives its fearful distinctiveness.

The pain of angina pectoris is quite distinct from the fear of impending death to which we have alluded, although they are nearly always associated. Its character will be gathered from a short description of a case which recently came under our care. The patient was thirty-seven years of age, and was a carman by occupation. He was, to the best of his belief, in perfect health until he met with an accident, and was thrown from his van, falling on the left arm. He was not seriously hurt, but was unable to use the limb for nine weeks. At the expiration of that time he resumed his work, and then first experienced the symptoms we are about to describe. He suffered from a severe pain in the chest, which came on in fits, and seized him on the slightest exertion. He could only describe it as "a heavy, dull pain, like a great weight;" and it was often so severe as to make him cry out with anguish. It was always first felt about the middle of the breast-bone, extending on either side as far as the nipple. In a second it would seize his shoulders, which he said seemed as if they were being squeezed with a grasp of iron. It then ran down to the elbows, where it usually ceased; but sometimes extended to the hands and even to the tips of the fingers. The pain was equal in severity in the two limbs, and was never confined to one side. It was more severe in the shoulders and elbows than in any other part of the arms. It always began in the chest, and its direction was never reversed. It never passed through the chest to the back, and never extended to the head and neck or to the legs. During a paroxysm of pain, the arms felt dead and heavy, and the patient had a difficulty in raising them, the hands at the same time becoming white and shrunken. Such is the usual character of the pain in angina pectoris.

The sensation of impending death to which we have referred is, from its very nature, almost indescribable. Sometimes for the want of a better term it is likened to suffocation; but it is something quite distinct from that. It is this even more than the pain which renders an attack so terribly awful.

These two symptoms coming on in paroxysms, may be said together to constitute angina pectoris. There are other symptoms, but they are of less constant occurrence. Usually the face is deadly pale during an attack, but sometimes we have seen it quite red, so that the sufferer looked just as if he had been inhaling nitrite of amyl. In the case of the man of whom we have been speaking, the face was always flushed at the commencement of an attack, but became deadly pale as the pain increased in severity. The pulse is usually slow and feeble, the breathing short and hurried, and very often the surface of the body is covered with a cold clammy sweat, the intellect remains unimpaired, and even to the last the patient is keenly alive to his frightfully critical condition. In the intervals of the seizures he

apparently ails nothing, he looks well, eats well, and were it not for the deadly foe that may attack him at any moment, would be in perfect health.

Let us now consider the circumstances which are likely to induce a paroxysm. In the man to whom we have referred exertion of any kind would always excite an attack. The act of stooping, as in putting on the stockings, or lacing up the boots, or even washing the face, would be almost sure to induce the pain. A sharp turn up and down the room would bring it on; but, contrary to rule, walking up-hill or going up-stairs was not more likely to excite it than exertion on level ground. Coughing always brought on the pain, and once, when the patient happened to catch a little cold on his chest, he displayed the greatest anxiety to get rid of it on this account. He remembered only one occasion on which an attack had seized him at night. Excitement of any kind would induce a paroxysm, so that, as the poor fellow said, he was obliged to be good-tempered, he durst not get in a passion. It may be mentioned in connection with this fact that the great comparative anatomist and physiologist, John Hunter, who suffered from this complaint, was deeply sensible of the risk to which he was exposed by an uncontrollable temper, and was accustomed to say that his life was in the hands of any rascal who chose to tease and annoy him.

In our patient the attacks always came on without warning. They gradually increased in intensity, reached their acme, and then gradually passed off. When the pain seized him he was afraid to move; if in the streets he stood quite still, supporting himself by the railings, or anything that might be at hand. If sitting or lying down, he would make an effort to stand up, as the pain was less severe when in the upright position. He was always able to speak, even during the most violent paroxysms, but he preferred not to, as it often increased the pain. The average duration of an attack was with him about a quarter of an hour, but it varied from six or seven to twenty minutes. He stated that he had often stood in the street for over twenty minutes, afraid to move a step. During these attacks he suffered from a little shortness of breath, but not enough to cause him any inconvenience. He added that the termination of a paroxysm was always preceded by an attack of palpitation. As soon as the palpitation commenced, the pain decreased in severity, and in a few minutes passed off. During the paroxysms the patient had often been given hot spirits and water by anxious friends and bystanders, but it never cut short the attack.

So little is positively known about the real cause or nature of angina pectoris, that it is not worth while discussing this subject. We may mention, however, that in many cases where death has occurred suddenly during an attack, the heart has been found perfectly healthy. Angina pectoris predominates vastly in men, the disease in women being a rarity. It is rare before the fiftieth year, excessively so before the fortieth, and unknown in infancy and childhood. It is very much more common in the upper classes of society than in the middle or lower. It is said by some writers never to occur among the poor, but this is certainly not true, for we have met with at least half-a-dozen well-marked instances in the wards or out-patient rooms of a metropolitan hospital.

It is doubtful what part, if any, gout plays in facilitating the occurrence of

angina. The disease of necessity often occurs in gouty people, because gouty, like anginal sufferers, are usually elderly men of the well-to-do classes. It has been supposed that in some cases the excessive use of tobacco has promoted the development of the disease, but this, to say the least of it, is problematic.

There is, unfortunately, no difficulty in recognising the occurrence of angina pectoris; its symptoms are only too well marked to admit of any doubt as to their nature. The intensity and situation of the pain, and the attendant dread of impending death, at once declare the character of the disease. Asthma is almost the only other complaint which comes on in such sudden paroxysms, and for this it could hardly be mistaken. Sometimes over-eating, indigestion, and flatulent distension of the stomach may simulate angina, but there is never that frightful fear of sudden death which is so essentially a symptom of the real disease. Moreover, these symptoms often occur in people under forty years of age, in whom, as we have seen, true angina is rare.

Respecting the duration of the disease the greatest diversity occurs. Life may be prolonged for years after the first seizure, in spite of more or less frequent recurrence. In the generality of instances, the complaint undoubtedly runs a somewhat protracted course. At the same time, it is only right that we should say, and say most distinctly, that the life of a man who has had an unmistakable attack of angina pectoris is not insurably safe for a single hour; he may live for twenty years, or he may die to-morrow. He should recognise the possibility of a sudden cessation of his troubles, and should put his worldly affairs in order. People often procrastinate in the matter of making their wills, but a man with angina pectoris must never put it off even for a day. The cardinal fact of the disease is its uncertainty. Death may occur with startling suddenness. Such was the end of John Hunter. The mode of its occurrence is well known, and there is reason to think that it was almost foreseen by him. A dispute of a painful nature had embittered his relations with the governors of St. George's Hospital. On the 10th of October, 1793, he determined to be present at a meeting, at which, however, he apprehended a personal dispute. He expressed to a friend his fear that such an encounter might be fatal to him; but went nevertheless. Something that he said in the board-room was noticed and flatly contradicted. He stopped, left the room in silent rage, and had just time to reach an adjacent apartment, when he gave a deep groan and fell down dead.

Have we any remedy for this fearful affection? Yes; during the last ten years a remedy has been discovered which is almost a specific, and that remedy is nitrite of amyl. It is a pale straw-coloured liquid, having an odour which is likened to that of pine-apple, or more commonly to pear-drops. It is used as an inhalation. A few drops are poured on a piece of lint or pocket-handkerchief, or even into the palm of the hand, placed under the nose, and the vapour inhaled. It causes flushing of the face, and almost immediately the pain ceases. It really acts like a charm. At first, a little caution will have to be employed in regulating the quantity, but the sufferer soon becomes accustomed to its use, and may be safely trusted with the bottle. We know three or four sufferers from angina who always carry a small bottle in the waistcoat pocket. The carman to whom we have so frequently referred has now done so for nearly three years. Although he still suffers from his attacks he has

been able to resume his occupation. When he is on the box driving, and he experiences the onset of the pain, he pulls out the bottle and takes one long sniff, and is all right again. On one occasion when in the country he broke his bottle. He fortunately managed to save a few drops, and with this to help him on his way, he at once started off to London to obtain a fresh supply. Nothing would induce him to be without it; it is more than gold to him—it is life itself. When he has the amyl in his possession he feels perfectly safe. So confident is he of its power to cut short an attack that he has no hesitation in stooping down and inducing the pain, if requested to do so. The nitrite of amyl has for him robbed the disease of half its terrors. This case is not an isolated one.

A medical man residing at Torquay who had long suffered from angina pectoris, in describing the relief he obtained from nitrite of amyl, says:—"The result of the first trial of five drops inhaled during a severe attack in the night was truly wonderful. The spasm was, as it were, strangled at its birth. It certainly did not last *two* minutes, instead of the old weary *twenty*. And so it continued. The frequency of the paroxysms was not diminished for some time, but then they were *bagatelles* as compared with their predecessors. Under these improved circumstances strength gradually returned, the attacks became gradually less and less frequent, and finally ceased." After this striking testimony we need say nothing more in favour of this truly marvellous remedy. We have had many opportunities of closely observing its effects, and entertain not the slightest doubt of its efficacy. Nitrite of amyl is now a pharmacopœal drug, and no difficulty will be experienced in obtaining it. Many chemists keep little glass capsules, each containing enough for a single inhalation. Half-a-dozen may be carried in the waistcoat pocket, and on the onset of an attack one may be placed in a handkerchief and broken. They have the advantage of being portable, and with them it is impossible to use more than the prescribed quantity, but usually the patient prefers having the bottle.

Another valuable remedy for angina pectoris will be found in nitro-glycerine, or glonoin, as it is sometimes called. This powerful explosive may be used with perfect safety in small doses for medicinal purposes. The nitro-glycerine mixture (Pr. 100) is made by adding a tea-spoonful of a 1 per cent. solution of nitro-glycerine in spirit to eight ounces—an ordinary medicine bottleful—of water. Of this a tea-spoonful should be taken every four hours, with an extra dose immediately an attack is felt coming on. The dose may be gradually increased to a table-spoonful or more if necessary. It may produce a little headache, but this is very transitory, and rarely causes any inconvenience. The sufferer should carry a little bottle of the mixture about with him, so as to have it at hand in case of need. Nitro-glycerine may also be obtained in lozenges or tablets, each containing a hundredth of a grain, corresponding to a tea-spoonful of the mixture. One or more should be munched up in the mouth, so as to get the full action of the drug as quickly as possible. These preparations of nitro-glycerine may be kept with perfect safety.

But should an attack come on suddenly when there is no nitrite of amyl at hand, what are we to do? Probably the best thing is to give a tea-spoonful of *sal volatile*, or half a tea-spoonful of chloric ether, in a wine-glassful of water, or the two combined, with perhaps the addition of a little bicarbonate of potash or soda. In

a case like this, one naturally feels inclined to give a glass of hot gin or brandy and water, but it seldom does much good ; the pain seems to be too great to be under its control. The hands and feet should be briskly rubbed if they are cold or pallid. You should send for a small bottle of nitrite of amyl as soon as possible, so as to be prepared for any future attack, but a medical man should be called in at once.

What should be done in the intervals of the attacks? The general health should be improved by every means in our power, and the greatest care be taken to avoid worry and excitement of all kinds. Tranquillity both of body and mind, and the suspension of all occupations, and even amusements, tending to excite the heart or hurry the breathing, is essential. Moderate daily exercise on level ground, and only to such an extent as is requisite for preserving the bodily health, and for ensuring good digestion ; the avoidance of all kinds of food tending to flatulence ; and the regular but strictly moderate evacuation of the bowels, either spontaneously or by the mildest laxatives, are measures to which too much importance cannot be attached. If stimulants are used at all they should be employed in the very strictest moderation, none but the lighter wines being taken. Whether smoking should be altogether abandoned or not we cannot say, for really every man is the best judge of his own sensations, but it is obvious that excess in this, *as in everything else*, must be strictly avoided. It must be always borne in mind that what might be a moderate allowance for a healthy man, would be a debauch for a person in the critical condition of an anginal subject. We have simply laid down the broad rules for the guidance of the sufferer, and can do no more. They may have to be modified in individual cases. A person who has long suffered from a complaint of this description soon finds out what agrees with him best, and knows better than any doctor can tell him. People are not all alike in illness, any more than in health, and an article of diet which may agree admirably with one person might half kill another. We have, as we have said, laid down the broad rules ; the details must rest with the patient himself.

When gout or dyspepsia occurs concurrently with the paroxysms, or in the intervals of the attacks, it should be treated by the appropriate remedies (GOUT ; DYSPEPSIA), and the removal of the complication may be followed by the alleviation or cure of the attacks themselves. It is generally considered that gouty angina is more amenable to treatment than any other form. A visit to Carlsbad, or Vichy, or Bath, may be attended with benefit should the patient's means allow him to travel under favourable conditions as regards freedom from hurry and excitement. Should the angina be associated with neuralgia, the different remedies recommended for that complaint may do good (NEURALGIA) ; in fact, by some eminent authorities it is supposed that angina pectoris is essentially a neuralgia itself. In these cases the administration of arsenic is often attended with marked benefit. When anæmia is a prominent symptom, it should be removed by the judicious use of iron. Phosphorus has been recommended in angina pectoris, but has not as yet come into general use. In one case under our care it was cautiously and carefully tried, but the patient derived little or no benefit from it.

APHASIA.

By aphasia is meant loss or impairment of the faculty of language. It is quite a different thing from an affection of the voice. It is a brain disease, and there is nothing wrong with the throat, or larynx. Sometimes there is a loss only of the faculty of articulate language, but more frequently there is likewise an inability to express the thoughts by writing or by gestures. There is loss, not only of the memory of words, but also of those acts by which these words are articulated.

This curious condition is a form of paralysis, and is not unfrequently the result of a "stroke." It is very generally associated with some other form of paralysis, and more especially with loss of power in the right arm and leg. The faculty of language is supposed to be situated exclusively in the left half of the brain, and it is well known that injury or disease of one side of the brain results in paralysis of the opposite side of the body. This readily accounts for the frequent association of aphasia with paralysis of the right side, for they would both be caused by some affection of the left half of the brain.

A patient who is suffering from aphasia, or who, as we say, is aphasic, may present several different manifestations of his complaint. He may be altogether wordless, or may utter inarticulate sounds, or mere unmeaning gabble. He may use to express all his wishes only one or two familiar words, such as "yes" or "no," or perhaps both of them. For example a young lady who became aphasic could for a long time say nothing but "oh, no," "papa," and "Bob." The case, too, is related of a young man, twenty-five years of age, who was attacked with aphasia and paralysis of the right side. In time some power of moving the right leg, and then the right arm returned, but he could articulate only two words, "no" and "mamma." "What is your name?"—"Mamma;" "What is your age?"—"Mamma, no." He was unable to say anything else, but yet was perfectly aware that his reply was incorrect. Sometimes all the aphasic patient can do is to utter some word or sound that has no intelligible meaning. Sometimes he has an almost unlimited flow of words, and yet may be unable to use them to express his desires or wishes. The mother-in-law of a medical man had an attack of aphasia. Whenever a visitor entered her room she rose from her chair with an amiable look, and, pointing to a seat, exclaimed, "Pig animal, stupid fool." She did not in the least understand the meaning of these insulting expressions, and her son-in-law had to explain her wishes.

The patient often substitutes one word for another in a manner which would be intensely amusing were it not for the knowledge that it is the result of brain disease. Sometimes he uses instead of the right word some other that somewhat resembles it in sound; thus, for example, he may say "pamphlet" for "camphor," "dispersion" for "dispensary," and so on. Sometimes he substitutes some word which has an obvious connection or association with that he wishes to express, as "breakfast" for "supper," or "toast" for "hot." He may invert the whole of a word, and say "mug" for "gum," for example; or may roughly invert certain syllables, like the man who always said "gippin" for "pigeon." It has been remarked that, curiously enough, it is only individual words that are misplaced, or mispronounced, and that the

grammatical framework of the sentence seldom suffers. It has been noticed, too, that substantives only are substituted for substantives, verbs for verbs, numerals for numerals, and proper names for proper names. The words with which the greatest difficulty is experienced are usually nouns.

Sometimes a patient when aphasic may repeat everything that is said to him, and never say a word besides. A curious circumstance is that under strong emotion or excitement a patient may be able to swear, although at other times he cannot utter a word. Swearing is with many people almost an involuntary act, and it is remarkable that disease should draw a line between the emotions and the intellect, between signs of feelings and signs of ideas. Another fact worth mentioning is that aphasic persons who cannot talk can often sing quite correctly.

Certain aphasic patients can write, while others fail to do so; those who are capable of the act occasionally write sense, frequently nonsense, but more frequently either unintelligible characters, or distinct but unconnected words. Sometimes the patient may be able to copy manuscript, or even to convert printed sentences into ordinary writing, when he could not write the same words if dictated to him. Curiously enough an aphasic who is unable otherwise to write will often readily sign his own name. Some aphasics can point out letters that are named to them, whilst others fail to do so. If they be given a children's bone or wooden alphabet, they make curious attempts to spell a word, and often enough can achieve no more than a dim yet perceptible resemblance to it. Thus a man named James Simmonds put together the letters JICMNOS in a vain attempt to represent his own name.

As a rule, in aphasia there is some impairment of intelligence, but usually it is not very great. The aphasic recognises his friends, remembers where he lives, and can often play correctly at cards, backgammon, dominoes, or any game of skill or chance with which he may be acquainted. He is not only able to play his own game, but is quite capable of cheating, should he be desirous of so doing. The case is recorded of a Russian gentleman resident in Paris, who spoke French like a native, yet after an attack of aphasia he was unable to utter a word of that language. When questioned, he smiled and said "Da," a Russian word meaning "Yes." He was unable to construct even part of a sentence in his own language. When shown a spoon he could make signs showing its use, yet had forgotten its name both in Russian and French. Nevertheless, he could play at whist correctly, and noticed any errors of his adversary by making a gesture.

With regard to the general symptoms of aphasia, we should state that usually the deprivation of speech occurs suddenly. Perhaps in a short time two or three words can be uttered, which, as we have seen, are then used in reply to all questions. The face is intelligent, and the movements of the lips and tongue and palate are in no way interfered with. In cases in which aphasia is not accompanied by paralysis of the limbs, recovery often occurs quite suddenly. It is believed by many that transitory attacks of aphasia are by no means uncommon.

There is very little difficulty in recognising the existence of aphasia. Hysterical women sometimes pretend that they are unable to speak, but here the most superficial examination will detect the real nature of the complaint. Impostors some-

times pretend that they have suddenly lost their voice. We should suspect a person if he could not speak, and yet could swallow and write well. The impostor nearly always pretends to be absolutely dumb, and seldom knows enough about his pretended complaint to see the necessity of uttering some word or word-like syllable, as the true aphasic nearly always does. This reminds us of the case of a soldier who, with the view of obtaining his discharge, pretended that he had been suddenly struck dumb. He was taken to the doctor, who at once suspected the real nature of the case. The man was told to try and say "Ah," it being explained to him that he would have no difficulty, as it was "a purely laryngeal sound, unconnected with the faculty of language." The effort was successful. He was then told to say "No," which, it was explained, was "a sound of similar character." Not seeing the trap, he promptly replied as directed, "No." "Well, my friend," said the doctor, "if you can say 'No' you can say anything; so good day."

Respecting the duration of an attack of aphasia we can say nothing definitely—it may last only a few hours, or many months. An attack, as a rule, indicates no immediate danger, but at the same time a medical man should be called in without delay.

APOPLEXY.

When a person falls down suddenly, and lies without sense or motion, except that his pulse keeps beating and his breathing continues, he is said to have been attacked with apoplexy, or to have had a "stroke." He appears to be in a deep sleep, but it would be impossible to awaken him by the same means which would rouse a healthy man. He is not in a simple faint, for his pulse beats perhaps with unnatural force, and often his face, instead of being pale, is flushed, and his breathing continues, although it may be laboured and noisy. The cause of this condition is usually the rupture of a blood-vessel in the brain, and the consequent pouring out of blood which ensues. Anything tending to produce congestion of the head favours the occurrence of apoplexy. It often follows a fit of passion or excitement, or some unusual act of exertion.

We all recognise the fact that certain people are likely subjects to become apoplectic. A seizure is most likely to occur in those whose parents suffered in the same way; in men and women of sedentary habits, accustomed to high living, with protuberant bellies, large heads, florid features, and short thick necks; in individuals above fifty, and those who are addicted to habits of intemperance. Bright's disease of the kidney also favours the occurrence of an attack. It is probable that in almost all cases in which a man has had a stroke, the blood-vessels of the brain have been weakened or rendered brittle by degeneration.

This dreadful visitation is seldom experienced without some warning, which, properly interpreted, should put the patient on his guard. These are usually fugitive attacks of congestion of the head, indicated by mental confusion and dulness, a feeling of heat about the head, with coldness of the hands and feet, and a diminished secretion of urine, with constipation. Among suspicious signs may be enumerated—headache and giddiness, experienced principally on

stooping; a feeling of weight or fulness in the head, with roaring noises in the ears and temporary deafness; dimness of sight or double vision; bleeding from the nose, with fits of nausea and sluggishness of the bowels; a loss of elasticity in walking, with numbness or a sense of pins and needles in the feet, or a feeling as if there were some foreign body in the boot; loss of memory, great mental depression, and peevishness or irritability of temper, or the use of wrong words in talking; and drowsiness with heavy sleep, and a tendency to dreaming or nightmare. Any one of these symptoms occurring singly would probably be of little significance; but a combination of them in a person who is a likely subject for apoplexy should be regarded as a warning.

An apoplectic seizure may commence in several different ways. Sometimes the patient falls down suddenly, deprived of sense and motion, and lies like a person in a deep sleep—his face flushed, his breathing laboured, and his pulse full and usually less frequent than natural. There may be convulsions or contraction of the muscles of the limbs, often confined to one side. Sometimes insensibility is not the earliest symptom; the attack begins with a sudden sharp pain in the head, the patient becomes pale and faint, and usually vomits. He may, perhaps, fall down in a state of insensibility, with a bloodless and cold skin and a feeble pulse. This may be accompanied by convulsions. Very often he does not fall down, the sudden attack of pain being accompanied only by slight and transient confusion. In either case he commonly recovers in a short time from these symptoms, and is quite sensible and able to walk, but the headache continues. After a certain interval—varying from a few minutes to several hours—he becomes heavy, forgetful, and incoherent, and sinks into a state of insensibility, from which he never emerges. Sometimes the seizure begins by an abrupt attack of paralysis of one side of the body, often with loss of speech, but no diminution of consciousness. The paralysis may pass gradually into apoplexy, or may remain without further urgent symptoms, or in certain favourable cases may slowly pass off, and the patient recovers. Such are the different modes in which apoplexy makes its appearance. It may be painful to have to consider the details so minutely, but it must be done, or there is danger of overlooking the real nature of the attack.

When the apoplectic state is fully formed—in whatever manner the attack may have commenced—the patient lies totally unconscious of all that may be going on about him. He replies to no questions, he is unmoved by the cries and lamentations of his family, and, in fact, does not hear them. The pulse is at first slow and almost imperceptible, but becomes quicker and stronger as the system recovers from the prostrating shock, although it usually remains less frequent than natural, and is sometimes irregular. The breathing is peculiar, being slow and interrupted or irregular, and attended with a snoring noise, and a puffing out of the cheeks like a person smoking a pipe. There is frothy saliva about the mouth, and the body is covered with a cold clammy sweat. The face is pale, the eyes are dull and glassy, the pupils are commonly neither much contracted nor much dilated, but very often they are unequal in size. The teeth are clenched, all power of swallowing is lost, and if you put fluids in the mouth they run out again at the corners of the lips. The limbs lie motionless, and if you raise one of them it falls passively

down again when you leave it, like a dead limb. Sometimes they are stiff and rigid, or they may be convulsed. The bowels are usually torpid; or, if they act, the motions are passed in bed, without the patient's knowledge or concern. The urine flows involuntarily, or is retained in the distended bladder until it overflows and dribbles away perpetually.

It is often a very difficult matter to say whether a person is suffering from apoplexy, or is stupefied by a large dose of opium, or is merely dead drunk. It is very important to make the distinction, as much depends on the treatment, but it is far from easy. In many cases a personal knowledge of the general habits of the sufferer will at once solve the question, but with a stranger it is sometimes almost impossible to decide. The insensibility is profound in each case, although arising from so different a cause. If any one-sided symptoms are noticed—if, for instance, one pupil is larger than the other, or if there are twitchings of the arms or legs on one side only—it is to be feared that it is apoplexy. If the patient can be roused even for a moment or two, so as to give intelligent replies to questions, he is probably suffering from opium-poisoning or is drunk. His general appearance and age may assist you in solving your doubts. You must inquire whether he is known to have been drinking; you must try if you can perceive the odour of wine or spirit in the breath; and you should endeavour to make out from his friends whether he has been low-spirited, or in difficulties, or is a likely person to have taken poison. Even when the odour of drink is distinctly appreciable too much reliance must not be placed on it, because a man who has been drinking may be seized with apoplexy. A story is told which illustrates forcibly the curious circumstances under which one may be called upon to distinguish between apoplexy and drunkenness, and the difficulties that may be experienced in making the diagnosis. Some years ago a doctor living in Edinburgh was called out late one evening to visit an old gentleman of that city. He found him completely insensible, his wife crying, and the whole family plunged in grief and distress. He was told that the patient whom he now saw in a fit had come home, and upon the servant's opening the door to him, had fallen into the passage on his back in a state of insensibility. The doctor learned, however, that he had been at the club, and he knew well enough that the club was composed of choice spirits, fond of their cups, although the gentleman's wife did not know so much. He therefore ventured to express a hope to the wife that her husband was only drunk, a view of the case at which she was extremely affronted and indignant. He persisted in his opinion, and not long afterwards the patient began to recover his senses. It turned out that he had partaken more liberally than the rest of the club, and was the first to be intoxicated. Two of his companions carried him home quite incapable of motion, but not liking to introduce themselves to his wife in that predicament, they placed him with his back against the door, rang the bell, and decamped. Of course, when the servant came to open the door his master tumbled senseless on the floor. The doctor certainly deserved some credit for the cleverness of his diagnosis, for much harm might have resulted if the patient had been treated energetically for apoplexy.

On the other hand, so many cases of apoplexy occurring in the streets have been mistaken for intoxication, that it should be a strict rule that no person found insen-

sible by the police should be placed in a cell until an examination has been made by the doctor. It frequently appears at the inquest that what was supposed to be drunkenness was in reality apoplexy. Even putting aside the question of treatment, the feelings of the relatives surely deserve some consideration, for it must be no small aggravation of their grief to find that one whom they loved and cherished was locked up on a charge of drunkenness.

An apoplectic seizure may terminate in any one of three different ways. Either it gradually passes off, leaving the patient apparently none the worse for the stroke; or it terminates in incomplete recovery, the mind being impaired and some parts of the body paralysed; or it ends in death. In any individual case it is very difficult to say what the result will be. An attack of this kind is always replete with danger, the severity of which may to some extent be estimated by the depth of the insensibility, the degree of prostration, and the difficulty in swallowing. There is a very common opinion that a person suffers from three different attacks of apoplexy, the first being mild, the second resulting in paralysis, and the third terminating fatally. This is not literally true, but undoubtedly the danger greatly increases with every successive attack. In fatal cases death very rarely occurs immediately, as it may do from heart disease, or the rupture of an aneurism, or a broken neck. There is almost always an interval of some hours, so that there is time to send for the friends or relatives, unless they live at a great distance. In favourable cases, even when partial recovery has taken place, there is still a fear, especially during the first fortnight, that there may be a recurrence of the bleeding in the brain, or that the clot will set up inflammation. When the symptoms gradually diminish there is, in the first place, a recovery of mental power. For a time this may be imperfect, so that the patient is childish, his memory is impaired, and he experiences a difficulty in expressing his wants in appropriate language. This soon passes off, there being simultaneously an improvement in the condition of the limbs, the capability of movement appearing first in the arm and then in the leg of the paralysed side.

What are you to do when a person is suddenly struck down with apoplexy? In the first place, send for the doctor and say what is the matter. Undo the things about the neck, especially the shirt-collar and necktie. Have the windows opened, so as to admit plenty of fresh air and cool the room. Place the patient in an easy-chair, and let him remain in a half-recumbent position, or put him on the bed or on the floor, with his head well supported. The less he is moved the better, but take care to see that the head is raised. Sponge the head with the coldest water you can get, and send for ice. When the ice comes, put it in a bag and apply it to the head, cutting short the hair if long. It is necessary to have the bowels opened, and as the patient cannot swallow put three drops of croton oil right at the back of the tongue, when it will run down. You will have no difficulty in doing this, and can use the end of a pen or a little brush if necessary. Apply mustard-poultices to the calves of the legs. Keep the patient absolutely quiet. This is all that is to be done; in fact, the danger is of doing too much rather than of not enough. After what we have said, we need hardly remind you of the absolute necessity of making sure that the patient is in reality suffering from apoplexy and not from opium-

poisoning or drink. In former days a man who had a stroke was always bled. Nowadays it is a mode of treatment which is seldom resorted to. There are a few cases in which it might do good, but this is a point you must leave to your doctor. Blisters applied to the scalp or back of the neck are, as a rule, to be avoided. When the urine is not passed for some hours a catheter will have to be employed to draw it off. Supposing the patient to recover from the fit, great care will be required to prevent a second attack. People who have a predisposition to apoplexy should carefully avoid excessive exertion, violent mental emotion, over-indulgence in eating or drinking, exposure to extremes of temperature, straining at stool, long-continued stooping, tight collars or neckties, and very warm baths. It is important to observe a moderately spare diet, which should be almost free from alcoholic drinks. Heavy meals at long intervals are to be particularly avoided. Sleep should be sought, with the head high, on a mattress, rather than on a feather bed, in a cool, well-ventilated room, and for not more than eight hours out of the twenty-four. Daily exercise should be taken in the open air, but over-fatigue should be avoided. The bowels should be carefully attended to, and constipation at once removed. It is a good plan to wash the head every morning in cold water. When there is giddiness or headache, or a feeling of fulness or throbbing about the head, a purge will do good. The general health should be carefully supported, and should the patient get below par, iron or quinine may be given with advantage.

ASTHMA.

Spasmodic asthma is such a common complaint that we need offer no apology for entering somewhat fully into its consideration. Not only is it a common disease, but it is one of the direst suffering, the horrors of an attack far exceeding any acute bodily pain. With a face expressive of the most intense agony, unable to speak, move, or even make a sign; the chest distended and fixed; the head thrown back between the elevated shoulders; the sinews rigid and stiff, like cords, tugging and straining with every breath—the patient struggles with his overpowering foe. Even in the intervals of the attacks his sufferings do not cease; he is not a free man; he goes about, it is true, like his fellows, and among them, but he knows he is altogether different—he is not sure of himself even for an hour; he can never make an engagement without a proviso; from many of the occupations of life he is cut off; and in many of its enjoyments and indulgences he dare not join; his life is marred, his existence is crippled, and he knows that a large proportion of his days are destined to be spent in the severest suffering. Not only is asthma superlatively distressing, but it is proverbially intractable; the asthmatic must be regarded as an asthmatic for life, as one for whom medicine may do much, but of whose ultimate restoration to perfect health there is very little hope.

We have no intention of entering into a discussion as to the nature of asthma. Nowadays it is usually regarded as a purely nervous affection—as a disease, that is, of the nervous system—and there are many circumstances that favour this view. We know that with many people the exciting cause of an attack is often something affecting the nervous system, something that with others would give rise to symptoms acknow-

ledged on all hands to be of nervous origin. For example, fatigue and physical exhaustion, and sudden or violent mental emotion, will, in many people, at once excite an attack. The case is recorded of a gentleman in whom a very severe fit of asthma was induced by his having, as he imagined, accidentally given his wife an overdose of medicine. In another instance mental emotion was, on the other hand, equally efficacious in cutting short an attack. A gentleman, a confirmed asthmatic, was suffering from an unusually bad attack of his complaint; so bad indeed that he was unable to move from his chair, or even to speak, except in monosyllables. He had been suffering all day, and in the evening his sister was on the point of giving him some ipecacuanha as an emetic, when she went off into hysterics, to the occurrence of which she was subject. The suddenness of the attack so alarmed the brother that he sprang from his chair, reeled to her assistance, and having placed her in a more comfortable position, ran down two flights of stairs to procure the restoratives that were usually administered. He then rushed up-stairs again; and having applied the remedies, was delighted to find that his own attack had quite left him, and that he was breathing as freely as ever he was in his life. The asthma, however, gradually returned, and within an hour he was as bad as ever. Again, in illustration of the influence of mental emotion on asthma, we may mention the case of a patient who stated that when a little boy he found his disease a convenient immunity from correction. "Don't scold me," he would say, if he had incurred his father's displeasure, "or I shall have asthma;" and so he would, as his fears were as well founded as they were at times convenient. A doctor recently stated that he had had patients come to him who lost their asthma the moment they entered his house to consult him. Suddenly the difficulty of breathing had vanished, without any apparent cause, except the mental perturbation at being within the precincts of the physician. We see just the same thing in the toothache: the sight of the dentist's house will often cure it. As an argument in favour of the nervous origin of asthma, we may point out that many of its most popular remedies are such as act on the nervous system; tobacco and stramonium, for instance. Perhaps the effect of chloroform is, of all remedies, the most striking, and at the same time the most illustrative of the purely nervous nature of the affection: a whiff or two, and the asthma is gone; a dyspnoea that a few seconds before seemed to threaten life, is replaced by a breathing calm and tranquil.

The precursory symptoms of a fit of asthma vary greatly in different individuals; some people never experience any, but having been guilty of some imprudence, or the regular period of an attack having recurred, they are seized suddenly with shortness of breath. The majority of asthmatics, however, do know when an attack is coming on by certain peculiar sensations. These symptoms generally present themselves on the night previous to the attack, but in some cases a longer time before. Some people feel very drowsy and sleepy, and are unable to keep their eyes open, and that without having undergone any particular fatigue, or done anything to account for it. Others, again, know by extreme wakefulness and unusual mental activity and buoyancy of spirits that a paroxysm awaits them. At other times the precursory symptoms are connected with the stomach, and consist of loss of appetite, flatulence, costiveness, and certain peculiar uneasy sensations at the pit of the stomach. Many people

at the onset of an attack pass large quantities of clear pale urine, almost like water.

Of all the circumstances attending the commencement of an asthma attack, none are more constant than the time of its occurrence. This is almost invariably in the early morning, between three and six. In some cases the usual time is the evening ; in some just after getting into bed or going to sleep ; whilst in others there is no particular time at all, the attack coming on at any hour of the day or night, on the occurrence of some particular exciting cause, such as a fit of laughter, or an over-distended stomach. In the large majority of cases, however, the shortness of breath first declares itself on the patient waking in the morning, or rather in waking him from his sleep when he has had but half a night's rest. There are probably two reasons for the attack coming on at this time: one being the horizontal position of the body, and the other the greater readiness with which sources of irritation act during sleep. That the position of the body tends to induce the attack we know, because an extra pillow may prevent it. Some asthmatics dare not go to sleep after the commission of any imprudence in eating or drinking, whereas they may be guilty of any irregularity with impunity provided they only keep awake for some time afterwards. In one case, for example, an asthmatic would often sit up half the night after taking supper, because he knew that if he went to sleep his asthma would come on immediately, but by waiting till the supper was fairly digested, the stomach empty, and the source of irritation removed, he might go to sleep fearlessly, and have a good night's rest. A curious circumstance with regard to the time of the attack is that it varies according to the intensity of the cause ; the more intense the source of irritation, the shorter the sleep before the asthma puts a stop to it. We are told of an asthmatic who was always awake by his disease with an earliness proportionate to the size of the supper he had taken. Certain airs disagreed with him just as did food before sleeping ; and if the two causes acted conjointly he would wake with asthma much earlier than if they acted singly. Thus, if he went to a place that did not agree with him, he might wake about five o'clock with his asthma, and the same if he ate supper in a place that did agree with him ; but if he took supper whilst staying at a place that did not agree with him, he would get no sleep after two or three o'clock. In many cases it would appear that this morning occurrence of asthma is an essential feature, and is not dependent on external circumstances. This peculiarity was noticed in an asthmatic night-porter, whose duties compelled him to turn night into day. He went to bed at seven o'clock in the morning, and slept till one or two. But although the ordinary time of sleeping and waking were thus transposed, the asthma came on at the usual hour, from five to six in the morning, towards the end of his vigil, and when he was awake.

We must now consider the phenomena which characterise an attack of asthma. For the following description, as for many of the statements contained in this article, we are indebted chiefly to a medical writer, who was himself a great sufferer from this complaint. The patient goes to bed in his usual health, with or without premonitory symptoms ; he goes to sleep, and sleeps for two or three hours ; he then becomes distressed in his breathing, and dreams perhaps that he is under some circumstance that makes his respiration difficult. While yet asleep, the characteristic

wheezing commences, often to such an extent as to sound as if a whole orchestra of fiddles were tuning in the chest, and to make so much disturbance as to arouse those in the same or an adjoining room. The patient half wakes up, and changes his position, by which he gets a little ease, and then falls asleep again, but only to have his distress and dreams renewed, and again partially to wake and turn. Shortly, the increasing difficulty quite wakes him, but only perhaps for a minute or two; he sits up in bed with a distressing half-consciousness of his condition, gets a temporary abatement, sleep overpowers him, and he falls back, to be again awake, and to again sit up; and so the miserable fight between asthma and sleep may go on for an hour or more, the dyspnoea arousing the sufferer as soon as sleep is fairly established, and sleep again overpowering him as soon as the wakefulness and change of position have a little abated the extremity of his sufferings. By-and-by the struggle ceases, and sleep is no longer possible; the increasing shortness of breath will not allow the patient to forget himself for a moment; he becomes wide awake, sits up in bed to lie down no more, throws himself forward, plants his elbows on his knees, and with fixed head and elevated shoulders labours for his breath like a dying man.

When once the paroxysm is established, the asthmatic offers a very striking and very distressing spectacle. If he moves at all, it is with great difficulty, creeping by stages from one piece of furniture to another. But most commonly he sits fixed in a chair, immovable, unable to speak, or even perhaps to move his head, in answer to questions that may be put to him. His back is rounded, and his gait stooping; indeed, his whole figure is deformed. His chest, back, and shoulders are fixed; he cannot even turn his head from side to side, so that when he looks from object to object he merely moves his eyes, like a person with a stiff neck; his shoulders are raised to his ears, and his head thrown back and buried between them. In order the better to raise his shoulders, and at the same time to spare muscular effort in so doing, his elbows are fixed on the arms of his chair, or his hands planted on his knees; or he leans forward on a table, or sits across a chair, and leans over the back of it; or he stands grasping the back of a chair, and throwing his weight upon it; or leaning against a chest of drawers, or some piece of furniture sufficiently high to rest his elbows on in a standing position. At every breath his head is thrown back, his shoulders still more raised, and his mouth a little opened, with a gasping movement; his expression is anxious and distressed; the eyes are wide open, sometimes strained, turgid, and suffused; his face is pallid, and perhaps slightly blue; the labour of breathing is such that beads of perspiration stand on his forehead, or even run in drops down his face. He is so engrossed with his sufferings and the labour of breathing, that he seems unconscious of what is going on around him; or else he is impatient and intolerant of the assiduities of those who are in vain trying to give him some relief.

During the attack, the heat of the body falls, and the extremities become cold, blue, and shrunken. At the same time, the perspiration produced by the violent efforts at respiration may be very profuse. It is this union of coldness and sweating, combined with the duskiess and pallor of the skin, that gives to the asthmatic so much the appearance of a dying man. The pulse during a severe attack is always small, and is sometimes so feeble that it can hardly be felt.

The length of time required for an attack to attain its maximum intensity differs much in different cases. In some, within a quarter of an hour of the first seizure the patient seems almost at the point of death; in others, the shortness of breath creeps slowly on, getting deeper and deeper for hours. The time that it lasts, too, varies greatly—from a few minutes to many days. It is very rarely that it remains long at its state of greatest intensity; in an hour or two the severity of the paroxysm gives way, and, even should it not completely disappear, the patient experiences a sense of inexpressible relief. Sometimes the attacks come on quickly, and as quickly and completely subside, so that in half an hour the whole thing may be over, and the patient as well as ever. This, however, is rarely the case, except as the result of the immediate adoption of remedial measures, as when the patient, on finding the asthma on him, at once gets out of bed, and sits or stands, leaning against some piece of furniture, keeping himself thoroughly awake, or smokes till he feels sick, or takes an emetic. In many cases, the attack subsides soon after breakfast, or towards noon; but the patient is fit for nothing for the rest of the day. In others it lasts the entire day, gradually abating towards evening, so that the patient has a good night, and awakes well the next morning. Again, it may get gradually worse as night comes on, so that the second night is worse than the first. In some cases, the onset and departure are alike sudden; in others they are both gradual. There is generally some particular time at which the spasm yields, and the patient passes from a state of agony to a condition of very endurable suffering; he generally knows when this has taken place, and feels that the crisis is over. In some cases, the spasm remains at an unvarying standard, and the sufferer grinds on all day without respite. More commonly, however, he experiences aggravations and abatements, for half an hour or so breathing perhaps as if each breath would be his last, then getting an hour or two's comparative ease, then getting worse again; then better, and so on throughout the day. These aggravations are frequently due to some exciting cause, such as taking food, laughing, or yielding to sleep, against which therefore, as long as his attack lasts, the asthmatic is obliged most scrupulously to guard himself. Nothing is so certain as food to induce these exacerbations; and, since asthma in no degree interferes with appetite, the enforced starvation to which the patient is reduced becomes an additional source of suffering; fainting with hunger, he dare not let a particle of food pass his lips; and as long as his paroxysm continues, so long must he starve.

When the spasm finally subsides it generally does so coincidently with the first appearance of expectoration. Up to this time the wheezing has been dry, and there has been no cough, or, if any, a short single dry one; the first appearance of loose cough is the harbinger of relief. The expectoration is very often of the consistence of jelly, or thick like arrowroot, of a pale grey colour, occurring in distinct pellets, about the size of a pea.

It is a curious thing that in asthma the paroxysms occur at regular and definite periods. In many instances, this periodicity is most marked; as the period characteristic of the particular case recurs, the attack is predicted with the greatest certainty, and never fails to appear at the right time. Asthma is essentially an engagement-keeping complaint. In the length of the intervals, although in each

case it is constant and characteristic, there is the greatest variety. Many of the intervals appear to be arbitrary, and one cannot account for them in any way; but many of them are natural, corresponding to the period of recurrence of certain conditions, either in the external world or within the body. Thus, with many people, an attack of asthma occurs regularly at intervals of a day, a week, a month, or a year. When the asthma is dependent upon the state of digestion, it is common for the attack to appear daily, the patient usually having his fit every afternoon after dinner. When the attack is diurnal, it nearly always depends on some daily-recurring exciting cause. Very often an attack occurs regularly once a week, at the same hour of the same day. The case is recorded of an asthmatic boy, who for years had an attack every Monday morning. On every other day in the week he awoke well; but as sure as Monday morning came round, so surely did his asthma appear. A suspicion arose on the part of his parents that he was shamming, or any rate making the most of his complaint, in order to escape school. It was not till this had been going on for a long time that the real cause was discovered. On Sunday evening he took supper, and on other evenings he did not; and the Monday morning's asthma was caused by the supper over-night. On taking supper on other occasions, it was found that asthma invariably followed. He left off the suppers altogether, and the regular Monday morning's asthma at once disappeared. When the attack occurs at monthly intervals, it is usually associated with the menstrual periods, and is not a common form except in women. When asthma occurs at intervals of a year, it is probably either hay-asthma, of which we shall speak in detail in due time, or bronchitic asthma—asthma that is dependent on an attack of bronchitis.

It is a curious circumstance that each attack seems to impart for a time an immunity from a repetition of it. For some time after an attack—the time varying according to the interval characteristic of that particular case—the patient may expose himself to the ordinary exciting causes of the paroxysms without the slightest fear of inducing one. As this period draws to a close, exposure to the provocations of the attack is attended with more or less risk, and when it has transpired the slightest imprudence is certain to bring on a fit.

We must now consider certain points respecting the causes of the disease and its relation to age, sex, and so on. In the first place, is it hereditary? Of this there can be no doubt, and it is said that a disposition to it is transmitted in nearly half the cases. Asthma is a disorder which is incident to both sexes, but it occurs far more commonly in men than in women. The time of life of the first access is very variable. It may make its appearance at any time from the earliest infancy to old age. A few days after birth the infant may give unmistakable signs of it, or the old man after spending a long life without an asthmatic symptom may suddenly become its victim. In cases in which the disease is hereditary it appears at an earlier age than when acquired, a circumstance quite in accordance with what occurs in gout, and many other transmissible diseases.

An attack of asthma may be excited in many different ways. In some people, fog, or smoke, or the fumes of a lucifer match, or of a recently blown-out candle would be quite enough. Ipecacuanha has the curious power of producing an

asthmatic attack with some individuals. Then others, as we shall presently see, suffer from a form of asthma produced by the pollen of grasses, and known as "hay-fever." Certain kinds of air may act as the exciting cause. For instance, a man may be perfectly well so long as he remains in town, but suffer from asthma immediately on going in the country. It is by no means uncommon to find that an asthmatic can breathe perfectly well in one place, while in another he would be almost suffocated. There is a special form of asthma, called "peptic asthma," which always supervenes on a full meal, and is produced by nothing else. Cases of asthma are often met with in which no exciting cause of the attacks can be detected. They come on at a certain time, but neither the patient nor any one else can tell why.

When called to a patient suffering from an asthmatic attack, we are often asked, "Is there any danger?" "Will he get over it?" and we can nearly always say positively that there is no danger to life, and the paroxysm, however severe it may be, will undoubtedly pass off in time. We never heard of any one really dying in a fit of asthma, unless there were heart disease, or some other complication. Directly faintness ensues, the spasm relaxes, and the danger is over. Then there is another question that is often asked, "Will he get rid of these attacks in time?" and that is a very much more difficult matter to solve. It depends on a good many different circumstances. In the first place, the age of the patient is not without its influence. In young asthmatics the tendency is almost invariably towards recovery, whereas in a person who is first attacked after the age of forty-five the tendency is just the other way. It is probable that there is no disease in which the question of age affects the prognosis more. To the young asthmatic under fifteen, whose lungs are sound, we can nearly always say, "You will grow out of it." To a person whose attacks have commenced between twenty and forty-five we cannot speak so hopefully, and can only say that by judicious treatment and management, there is a very fair chance of recovery. Above the age of forty-five, it is only under very favourable circumstances that the complaint gets well by itself.

The length of the attacks has an important bearing on the prognosis. If they are short, lasting only a few minutes, or, at the most, an hour or two, we may hope for the best; but if they are very long, lasting a couple of days—or even a week, as they do sometimes—the case is a severe one. The frequency of the attacks is another point that may enlighten us as to the future. The more frequent they are, the worse the omen. Then again, the completeness of the recovery between the attacks is an important point. If the patient in the intervals is perfectly free from any shortness of breath, it is a favourable sign; but if he is always more or less short of breath, we cannot look so hopefully to the future. When, in addition to the asthmatic attacks, there is constant expectoration, the patient always spitting a little, it is a bad sign, for it shows a tendency to bronchitis. A cough has much the same meaning, and is also unfavourable. One often derives valuable information concerning the future from the course or direction the disease is apparently taking. Are the attacks becoming more severe and more frequent, or milder and more distant? The loss and the acquisition of the asthmatic tendency is generally a gradual process, and the future of a case is often but a reflection of its past history. If you feel that your attacks have mitigated in severity, and are getting less

frequent, you have, especially if young, one of the most hopeful auguries of ultimate recovery. If, on the other hand, the disease is gaining on you, it must be regarded as a bad sign. If you can detect the exciting cause of your attacks, it will materially affect the prognosis. If the exciting cause is clear, single, and such as may be prevented, nothing can be happier. You hold in your hands the key, as it were, of the disease, and by shutting off the exciting cause, you may indefinitely postpone a repetition of the attacks. If the attacks never occur but as the consequence of this exciting cause, and its recurrence is permanently prevented, this preventive treatment amounts to an absolute and final cure. If, for instance, as is not uncommon, there is some particular locality where the asthma is sure to come on, and no other, all you have to do is to stay away from that place; or if, as is still more common, there is only one place where asthma does not come on, all you have to do is to go and live there, and never leave it. If an attack comes on only after some indiscretion in eating or drinking, diet yourself strictly, and you are safe.

We now pass on to the consideration of the treatment of asthma, and about this we shall have a good deal to say. Asthma is a very uncertain complaint, and not uncommonly displays most astonishing vagaries. A remedy which succeeds admirably in one person may utterly fail in another, even when, so far as one can judge, the cases are identical. And more than that, a remedy may on one occasion cut short a paroxysm instantly, whilst in the same individual a few weeks later it may prove inoperative. Hence the large number of drugs that are employed in the treatment of asthma. We cannot lay down any positive rule for the treatment of your symptoms. We cannot say, "Take this, it will just suit your case." All we can say is, "Here are the different remedies for asthma; this one generally succeeds, try it first; if it fail go on to the next, and then the next, till you have tried them all, and found out which suits your case." A patient who has long suffered from asthma generally knows what will do him good better than any doctor can tell him. It is only after all his usual remedies and appliances have failed him, or in very severe attacks, that the asthmatic finds it necessary to send for medical aid. We will now proceed to the consideration of the remedies in detail.

Tobacco.—Most asthmatics are smokers, and by the use of the pipe or cigar often succeed in warding off their attacks. For a man who has never learnt to smoke, tobacco will prove very useful in arresting a paroxysm. The case is recorded of an asthmatic, who fortunately had never established a tolerance of tobacco, and who could at any time cut short the most violent paroxysm by twenty whiffs of a pipe, or half a cigar. Sometimes he would begin to smoke when his breathing was so difficult that he could hardly smoke a pipe; he would draw a feeble whiff or two, and then stop to recover his breath, then another whiff, and so on. By-and-by he would lay down his pipe, with a look of intelligence at his attendant, as much as to say, "It's all right now;" his face would become pallid, and damp with perspiration, his limbs relaxed, his breathing long and sighing; but his asthma was gone. His object was to smoke just so much as to produce this condition, and no more, so that the moment he felt the sensation coming on he stopped. In the case of non-smokers, tobacco is a valuable remedy. Its advantages are that it is always at hand, and is very speedy in its action; but it has the great disadvantage that so

many people habitually smoke, that they find a difficulty in getting themselves thoroughly under its influence. It is probably not a matter of any great importance in what form the tobacco is used, but on the whole we should recommend the pipe in preference to a cigar. A pipe has the advantage of being of more certain and uniform strength. Bird's-eye is very commonly used, as being a mild tobacco, and one but little likely to produce collapse. Shag and other strong tobaccos should be used by non-smokers with a certain amount of caution, as they are apt to cause very great prostration. In the case of ladies or children, a few whiffs at a mild cigarette will often succeed admirably.

Stramonium or *thorn-apple* often answers well when tobacco has proved useless, and it is regarded by many as one of the best remedies for asthma. The dried leaves are broken up, and either made into cigarettes or smoked in a pipe. Very often it calms the paroxysm like magic. One man, who had been a sufferer from asthma for many years, declared that since he had used stramonium his attacks had lost half their terror, for he knew he could always cut them short in a minute. People often say that stramonium is very uncertain in its action, but in the majority of cases it will be found to succeed if attention be paid to two or three little matters of detail. In the first place, you must have your leaves good; those you buy at the shops have often lost half their virtues. If you live in the country, you should grow your own stramonium, or, if a town-dweller, get some country friend to undertake this kind office for you. One patient stated that, while he received great benefit from stramonium grown and dried by a relative of his, that which he obtained at the shops did him no good whatever. Grow your own stramonium by all means, if you possibly can. It will grow almost anywhere, and without the slightest trouble. Then there is another point—stramonium will cut short an incipient attack, whilst it has comparatively little power over one that has been thoroughly established. The great thing is to resort to it in time; and, as the patient is generally awake from his sleep by the paroxysm, he should put his pipe, already filled, with the means of lighting it, by his bedside over-night, so that when the time comes for using it not a moment may be lost. In many cases, it is a good plan to smoke a pipe of stramonium at bedtime, with the view of warding off an attack. Many people think that it does even more in the way of prevention than cure, and obtain greater benefit from the long-continued practice of smoking a pipe of it the last thing at night, whether an attack is threatening or not, than by waiting until a paroxysm comes on.

Some people derive considerable benefit from inhaling stramonium smoke. They do not simply take the smoke into the mouth and puff it out again in the ordinary way, but draw it well into the lungs. Many people who cannot inhale the hot smoke, manage to take it when cold without the slightest difficulty. They smoke the stramonium like tobacco, puff the smoke into a tumbler, and then inhale it. The seeds of the stramonium are much more powerful than the leaves; and many people who have found the latter almost worthless, have come to regard the former as a most efficient and powerful remedy. The effects of the seeds are so marked, that a certain amount of care is necessary in using them, and they should be smoked in very small and gradually-increasing quantities. In some cases, benefit might be

obtained by steeping the leaves in a decoction of the seeds, and then drying and smoking them. Often enough when the ordinary stramonium (*Datura stramonium*) has failed, the stronger species (*Datura tatula*) will succeed admirably. There is one point in connection with stramonium-smoking that cannot be dismissed without a word of notice, and that is that in a very bad asthmatic attack the patient may be really so ill that he cannot smoke. He makes one or two ineffectual attempts at a whiff, but he is so short of breath that he cannot draw sufficient air into his mouth to keep it alight, and finally has to give it up as a bad job.

The *Cigares anti-asthmatiques de Joy*, a French preparation, often prove useful. They are said to contain arsenic of some form or other. They are sold now by most chemists.

Coffee is a very excellent remedy for asthma. If you don't know how to cut short your attacks, and have not tried coffee, do so by all means. It often succeeds admirably, when almost everything else has failed. There are one or two little points to be attended to in taking coffee for asthma. In the first place, it should be very strong—in fact, perfectly black. Weak coffee does more harm than good. If made very strong you need not take much of it; a large quantity is a positive disadvantage, for it is less rapidly absorbed, and only distends the stomach. Then it should be given without sugar or milk—pure *café noir*. It should be given on an empty stomach, for when taken on a full stomach it often does harm, by putting a stop to the process of digestion. There is no doubt that with some people coffee taken at meal-times—especially late in the day—is very apt to produce asthma. Finally, it should be given very hot.

Nitre-papers.—Of nitre-papers we can speak in the very highest terms in the treatment of asthma. It is an old-fashioned remedy, but it is one of the best. A London physician has a son who almost from his infancy has been very subject to asthma, which, however, is readily controlled by the fumes of smouldering nitre-paper. They sleep in adjoining rooms. At that time in the early morning when the attack is wont to come on, the wakeful, anxious father listens for and hears in his son's altered manner of breathing the earliest intimation of the coming trouble; he rises immediately, and lights his nitre-paper in the son's chamber, and in five or ten minutes the threatened or incipient paroxysm is extinguished, the sleeper sleeping on in blissful ignorance of what has happened. This is by no means an isolated case. A lady obtained so much relief from this mode of treatment that she never went anywhere without taking some nitre-paper with her in her pocket. If an attack came on at any time she would at once resort to it. Sometimes, when making a morning call, she would find her asthma coming on; she would put up with the inconvenience as long as she could, and then when she could bear it no longer, she would ask to be allowed to retire to some room to use her remedy, and in ten minutes would return to her friends as well as ever. Many asthmatics habitually burn nitre-paper in their rooms before retiring to rest, and by this means invariably insure a good night's rest. Every one should make his own nitre-paper—the home-made is always the best. The best paper to use is ordinary blotting-paper, it must not be very thin, or it will not take up sufficient nitre, nor yet too thick, or it will make the fumes too carbonaceous; but it must be moderately thick and very

porous and loose in texture, so as to soak up plenty of the solution. There is no difficulty in making the solution, for all you have to do is to put in just as much nitre as the water will take up. Nitre-paper will keep for any length of time, and will be none the worse for it. If it get damp, all you have to do is to put it before the fire and dry it, and it will be ready for use in a few minutes.

When nitre-paper prepared in the ordinary way fails, another kind of nitre-paper will often succeed. This is very much stronger, and we have known cases in which its action was truly wonderful. We don't know that you can buy it anywhere, so that you will have to make it yourself. We have made it dozens of times, and it is really very little trouble. In the first place, you get half-a-dozen sheets of ordinary red blotting-paper, and you cut this with a paper-knife into pieces about six inches square. Then you take these pieces and make a number of little piles of six of them, one on the top of the other, all over the table. You next take a good-sized saucepan, half fill it with water, and put it on the fire to boil. You must now get some saltpetre and chlorate of potash, and throw them into the boiling water—an equal quantity of each, till it will not take up any more. There is no occasion to measure how much you put in. We usually throw in a big spoonful of each alternately, giving it a stir if it does not seem inclined to dissolve. When the water is saturated with the salts take the saucepan off the fire, put it on the hob, and then take one of your piles of blotting-paper—all six pieces—and dip it in. Directly it is wet through throw it on an old tray, or better still, on a piece of board with holes in it, so that it may drain. You must treat all your piles of paper in the same way. You will have to be rather quick in pulling them out of the hot salt solution, or you will scald your fingers. You may, perhaps, find it convenient to use a small pair of tongs. The best way of drying the paper is to put it out in the sun for an hour or two. In the absence of sun the kitchen fire forms a very effectual substitute, only you must take care that a spark does not fly out and set the whole of it on fire. Before the pieces of paper are quite dry, it is a good plan to sprinkle them lightly with a little aromatic of some kind or other. We generally use tincture of sumbul or spirits of camphor, but you can flavour to your taste. The addition of the aromatic, we are inclined to think, is not a mere matter of fancy, but really adds to the efficacy of the preparation. The nitre-paper so prepared is as thick as cardboard. It of course consists of the six pieces of blotting-paper, closely adherent, and covered all over with crystals of saltpetre and chlorate of potash. For the sake of distinction we often speak of these thick pieces of nitre-paper as “nitre-tablets.” The way you use them is this:—You take a nitre-tablet and fold it across the middle so as to make it like a tent, or the cover of a book. You then put it standing up in the fender, or on a piece of metal of some kind or other, and light it at each end of the fold. It burns very quickly, almost like a firework, forming a great deal of very dense smoke. In its combustion it often shoots out a flame, some six or eight inches long, from each end, so that you must be careful not to put it near the bed or the curtains, or anything that would catch fire. It is not a good plan to put it on a plate, for it may crack it. The smoke often causes great drowsiness, and the patient goes to sleep almost immediately, and nearly always passes the whole night without interruption. We

have obtained some most excellent results with these tablets, and they often succeed when ordinary nitre-paper fails. Country asthmatics, who never suffer from their complaint whilst in town, may prepare a regular London atmosphere by this means.

Chloroform is a very good remedy for asthma, but it should be given with caution. It is never safe to use it for yourself, but if there is any one to do it for you, well and good. As an illustration of the danger of the self-administration of chloroform, we may mention a sad accident that resulted from its use. A person who was in the habit of curing his attacks of asthma by inhaling chloroform, when administering it to himself one day, and when in a state of half-subjection to its influence, in order to produce the full effect placed his handkerchief on the table, and buried his mouth in it. His insensibility became deeper and deeper, till at last he was too far gone to raise his head. He continued inspiring it, his coma became more and more profound, and a short time after he was found in that position quite dead. It is never necessary to produce insensibility with chloroform for the relief of asthma—at all events, this should never be done except by a medical man. The best way is to get some one to put a few drops of chloroform on a pocket-handkerchief, and give it you as inhalation at the first sign of an attack coming on. If employed in this way it proves extremely useful, but when the paroxysm is thoroughly established it is a far more difficult matter to stop it.

Chloral given in a twenty-grain dose during a paroxysm will often succeed in arresting it.

Nitrite of amyl used as an inhalation often proves very useful in asthma, cutting short the attack almost immediately. Four or five drops may be poured into the palm of the hand and slowly inhaled, or what is better, a good sniff or two may be taken from the bottle. The full effect of the drug has not been obtained until it causes flushing of the face and a sense of pulsation about the head. It can be used in the manner we have indicated with perfect safety.

Ipecacuanha is a remedy very commonly used for asthma. The case is related of an asthmatic youth whose attacks generally awoke him about four or five in the morning, and soon compelled him to sit up in bed and wheeze, or get up and lean against the furniture for support. In two or three hours he would be able to dress himself, and perhaps in the forenoon he would obtain a little relief. Towards evening, however, he would get worse, and at bed-time there seemed to be no chance of the paroxysm passing off. He would then take twenty grains of ipecacuanha powder in a little water, would be sick, take a light supper, go to bed, sleep like a child, and wake quite well in the morning. There is very little doubt that if the ipecacuanha had been taken earlier it would have proved equally efficacious in cutting short the attacks, and would have saved some hours of acute suffering. Remedies such as ipecacuanha, which act as depressants, should be given as early as possible; it is essentially bad policy waiting till the paroxysm has got a firm hold before attacking it. Treatment is often powerless after the dyspnoea has continued for some hours which would not have failed if resorted to quite at the beginning. Moreover, even if the spasm does yield in spite of having been some time established, the recovery is not so complete as if the remedy had been applied immediately on its appearance.

Tartar emetic is sometimes used to cut short an attack. It acts in the same way as ipecacuanha, to which we are inclined to think it is inferior.

Lobelia inflata, the Indian tobacco, is one of our most valuable remedies for asthma. It does well in the form of asthma associated with indigestion, but proves especially efficacious when in addition to asthma there is bronchitis. It is less useful when the attacks come on periodically, at intervals varying from three weeks to a month. It may indeed for several days postpone or partly suppress the paroxysm, but after a time it usually breaks out, the lobelia being apparently unable to prevent the attack. The lobelia is taken internally in the form of the tincture. Ten drops of the simple tincture are to be taken in water every ten minutes or a quarter of an hour, until the shortness of breath gives way. The only drawback to this medicine is that it is somewhat uncertain in its action, some people being made sick and faint by doses which others can take with impunity. Those who are in the habit of taking lobelia soon learn what dose suits them best. Even should sickness and faintness appear they soon pass off, and never become serious. The relief obtained from lobelia is often very striking.

There is another remedy for asthma which we cannot pass by without notice, although we have some hesitation in recommending it, and that is *Alcohol*. It may be taken either in the form of whisky, brandy, or gin. It is essential that it should be taken very hot and very strong. The mixture should consist of two-thirds spirit and one third water, and it should be so hot as that it is only just possible to drink it. The objection to this remedy is that it grows on one. You begin to take it, and often find it a difficult matter to leave it off. A gentleman who became acquainted with this method of cutting short his attacks was so pleased with it that he drank a quart of brandy in the first twenty-four hours. He went on with this treatment for two months, and in that time took twelve gallons of spirits. The great thing in favour of the alcohol is that it is always at hand, and often succeeds where the more orthodox remedies have failed.

Iodide of potassium is an excellent remedy for asthma. Asthmatics should take five grains of iodide of potassium—or its equivalent, two table-spoonfuls of the iodide of potassium mixture (Pr. 32)—three times a day, for a fortnight or longer. Should this fail to afford relief the dose should be increased to ten grains three times a day. Some people never have an attack so long as they take the medicine; and then it is a good plan to continue it. Should it cause much depression, as it does occasionally, ten drops of sal volatile may be added to each dose.

There is a remedy for asthma which has been quite recently introduced—in fact, within the last year—and we cannot refrain from just mentioning it. It is the *Grindelia robusta*. It is a Californian plant belonging to the natural order Compositæ—the daisy family. It is said somewhat to resemble the sunflower, only smaller. The best preparation is the liquid extract of grindelia, and of this twenty or thirty drops are given in a wine-glassful of water three or four times a day, an extra dose or two being taken at the onset of the paroxysm. We have given it in about a dozen cases, and have obtained some very good results. In the case of a man who had had an asthmatic attack every night for years, it afforded complete relief in less than a week. It will not succeed in every case, and we have had several

failures ; but it is well worth trying. We have never known it produce any unpleasant symptoms. It is a remedy as yet not at all generally known, but it may be obtained through any of the leading London or provincial chemists.

Having considered in detail the different remedies used in the treatment of asthma, we will now pause for a moment, and just think over what you should do if suddenly seized with an attack. In the first place, can you account for it in any way ? Do you know of anything that could have brought it on ? Are your bowels confined ? or have you been taking anything indigestible ? If your bowels are at fault get them cleared out at once. Take a seidlitz powder, or use an injection. The latter is preferable, because it is so speedy in its action. If the stomach is overloaded, you must relieve yourself by an emetic : a table-spoonful of ipecacuanha wine, aided by a draught or two of warm water, will answer your purpose. If neither your bowels nor your stomach is at fault, is there anything in the air that is answerable for it ? Has anybody been burning sulphur matches, or anything of that kind ? Do you smell anything wrong ? Is there any hay-making going on ? Can it be that ? Has anybody been having anything to do with ipecacuanha powder ? It is very important to find out the exciting cause ; for if this continues in operation, no amount of treatment will do any good. Do you think it is a question of locality ? Do you always have an attack when you come here ? If it is a question of locality, or if there is something acting as an exciting cause that cannot be removed—as, for example, a hay-field—the sooner you get away from it the better : order a cab, or your carriage, or whatever it may be ; make them carry you down-stairs if necessary, but get away without a moment's delay. It is very likely you will get all right before you have gone a couple of miles, always supposing that it is a local cause that has originated it.

It is a great thing to place yourself in as good a position as possible during an attack. If in bed get up, bolster yourself up in an arm-chair in front of a table of a convenient height, with a pillow on it, on which you may rest your elbows and throw yourself forward. It is really astonishing how much comfort this will often give ; it not only actually relieves the breathing, but disposes the spasm to yield. If the breathing is really so bad that it is impossible for you to sit down, the only thing is to make the same arrangements adapted to a standing posture.

If, however, the spasm still persist, the only thing is to have recourse to one of the remedies we have mentioned, or to try several of them in succession. In the choice of a remedy you will be more or less influenced by your former experience. You probably know better than anybody what will suit your attack and what will not. Few asthmatics suffer long from their complaint without discovering what particular remedy is most efficacious in their case, and in this respect asthma displays such caprice that there is no better guide than the patient's own experience.

We must now say a word or two respecting the dietetic treatment of asthma. Most asthmatics are more or less dyspeptic, and, as has been very truly said, in no direction is asthma more accessible than through the stomach. Even when, as in many cases, the asthmatic does not suffer from the severer forms of dyspepsia, it will be found that the stomach is irritable and the digestion capricious and irregular. The presence of food in the stomach at bed-time is a potent exciter of the paroxysm

of asthma. It is a good practical rule, that any one subject to asthma should not take solid food for five or six hours before retiring to rest. If a man goes to bed at twelve, he should take nothing to eat after six o'clock. He should at all times carefully abstain from taking anything commonly reputed to be indigestible. All preserved things are to be avoided. Potted meats, dried tongue, sausages, stuffing and seasoning, preserved ginger, candied orange-peel, dried figs, almonds and raisins, everything of this kind is to be regarded with suspicion. Cheese is bad, especially if old; and it has been said that there is "as much asthma in a mouthful of decayed Stilton as in a whole dinner." Nuts are especially likely to excite asthma. Meats are very "asthmatic," so, in a peculiar degree, for some reason or other, are beef-steak and kidney puddings. As we have already seen, coffee taken as a beverage with meals is particularly likely to bring on asthma. The after-dinner cup of coffee is seldom admissible. For breakfast, it will usually be found that tea is better than coffee, cocoa better than tea, and milk and water better than either. Heavy malt liquors, especially those containing much carbonic acid gas, as bottled stout and Scotch ale, are, of all drinks, the worst for asthma.

Over-distension of the stomach is very apt to bring on asthma. An asthmatic's meals should always be small in quantity, as nutritious as possible, and of easy digestion. The tendency of eating to induce asthma is in direct proportion to the lateness of the hour at which the meal is taken: it is slight after luncheon, worse after a late dinner, worst of all after supper; whilst breakfast is entirely free from it. As breakfast is the least likely of all meals to do harm, the sufferer from asthma need not hesitate to take advantage of the fact, and should make a good one. In fact, in the case of people whose time is practically their own, there is no reason why the first meal of the day should not be to all intents and purposes dinner, the usual order of the meals being reversed.

Curiously enough, many asthmatics never suffer from their complaint in certain localities. In some cases the foul and murky atmosphere of a crowded city proves more beneficent than the clear and purer air of the country. People tormented at home and coming to London for medical advice, often find themselves on their arrival suddenly and thoroughly freed from their accustomed malady; and are sometimes vexed that, however long they may wait, they get no opportunity of letting their chosen physician witness an attack. On their return to the country their complaint quickly resumes its habitual tyranny. In these cases, the densest, lowest, and most foggy parts of the city usually furnish the surest defence against the assaults of the disease. The history is related of a great sufferer from asthma, who was accidentally detained one night in the foul region of Seven Dials. He felt persuaded that he could not possibly survive till morning, so great was his dread of the close atmosphere. He not only lived through the night, however, but enjoyed the first uninterrupted sleep he had known for months. He took the hint, removed to Seven Dials, for the benefit of the air, and from that time never suffered another attack. We would advise residents in the country, whose life is rendered miserable by constant attacks of asthma, to see what London air will do for them. It is probable that there is nothing peculiar in London except so far as this, that it is a thickly covered, densely populated, smoky city. We imagine that in the same class of cases any

other large manufacturing city, such as Manchester, Liverpool, or Glasgow, would do equally well. As a rule, the worse the air is for the general health the better it is for asthma. To this there are some exceptions, and some asthmatics are always safer in pure inland air, and a few find a specific remedy for their complaint in the air of the sea-coast. It is probable that every case of asthma is curable by the air of some place or places, and nothing but actual trial will discover what that is.

ASTHMA FROM ANIMAL EMANATIONS.

Cat Asthma, &c.—Cat asthma is an uncommon but very curious complaint, related in its general features to hay fever. The cause of the asthma is, as the name indicates, the proximity of a common domestic cat. One would hardly believe that such a thing could be possible, were not its reality placed beyond doubt. It is a fact; and there is neither invention, nor imagination, nor exaggeration, about it. We recently had a case under our care, and can vouch for the reality of the suffering. The symptoms very closely resemble those of the hay fever, but they are usually shorter in duration, and, perhaps, more severe whilst they last. The asthmatic spasm, which is immediate and violent, is accompanied by sneezing, and burning and a watery condition of the eyes and nose. The eyes are injected, and instinctively avoid the light. Sometimes there is excessive itching of the chin, which may also extend to the chest, and, perhaps to between the shoulders. Some shortness of breath is usually produced in susceptible people, even when they are sitting by the fire and the cat is lying quietly on the hearth-rug; but the effect is much greater when the animal is at the distance of only a foot or two, and it is still further increased by stroking the cat, especially when it is in the lap just under the face. The exciting influence is said to be greater in kittens than in full-grown cats. After the removal of the animal the symptoms begin to subside almost immediately, and if the paroxysm is not very severe, a cure is effected in from ten minutes to a quarter of an hour.

Many people, even when they do not actually suffer from cat asthma, are strangely and unpleasantly affected by the presence of cats. With them, the effect on the eye of rubbing it just after touching a cat is to produce a hot stinging irritation, a profuse flow of tears, and an intolerance of light. The result of touching the lip is to produce a swelling, with a feeling of heat and irritation. If the cat happen to rub against the face, the cheek immediately becomes hot and swollen, and a kind of nettle-rash makes its appearance.

In some people asthmatic symptoms are produced not only by cats, but by other animals. The case is related of a lady who could never visit the Zoological Gardens without being rendered asthmatic. In another instance a gentleman found that he could never go near horses without suffering from shortness of breath, nor did he dare stay in the room with any one who had been riding. He was a country gentleman, and it was frequently desirable that he should attend agricultural meetings, but he was unable to do so from this circumstance. We are told of a clergyman who was always rendered asthmatic by a hare or a hare-skin. If he met any of his parishioners who had been poaching and had their booty about them, he could

always detect them. When he was a boy studying with a private tutor, a friend, as a practical joke, put a hare under a sofa in the room in which he was sitting, and the result was an immediate and very serious attack of asthma. A lady who was subject not only to cat-asthma, but to hare-asthma, tells us that on one occasion she was seized with a terrible attack whilst on a railway journey. She was unable to account for it in any way, until a gentleman getting out of the carriage took a hare from beneath the seat. This same lady was unable to wear a cloak made of certain skins, from the shortness of breath it produced.

Respecting the treatment of these cases, we have nothing to add to what we have already said when speaking of asthma. When once the exciting cause is known it is easily avoided.

BILIOUSNESS—CONGESTION OF THE LIVER—LIVER DERANGEMENT— LIVER OUT OF ORDER.

Nothing is more common than to hear people say that they are bilious, and that their liver is out of order. No one supposes that it is a serious complaint, but it is uncommonly disagreeable while it lasts. There can be no doubt that the liver is often credited with symptoms with which it has little or no concern, and on the other hand symptoms are often referred to other organs which undoubtedly have their origin in the liver.

We will, in the first place, consider what are the causes of derangement of the liver, and how it is that it so often goes wrong. We fear that errors in diet have a great deal to do with it. There can be no doubt that the present system of living, and especially the consumption of even what are regarded as average quantities of rich food and stimulating drinks, have much to answer for. It will be generally admitted, and it would not be difficult to prove, that most people eat more than is good for them—more than suffices to maintain the nutrition of the body. Of course, we do not mean that you individually take too much; but still, if you look round at your neighbours you will at once perceive that the amount of food they take is positively disgusting. Much of this excess is passed off by the bowels, but a great deal of it is taken up by the blood, and accumulates in the system, upsetting the liver. With regard to different kinds of food, we know that the liver is most apt to be deranged by sweet or fatty substances. Derangement of the liver is in many people more likely to be induced by even small quantities of these substances than by a moderate excess of meat. Rich sauces and sweets are very apt to disagree. There are also certain peculiarities with regard to many articles of diet, which always derange the liver in certain individuals, though they are comparatively harmless to others.

But above all, alcoholic drinks are the most likely to cause liver derangement. They act injuriously in two ways. In the first place, even small quantities of alcohol in healthy people produce a temporary congestion of the liver; and if the alcohol be taken in excess, or too frequently, the congestion becomes permanent, and the functions of the organ are deranged. But wines, and in fact most alcoholic drinks, contain large quantities of sugar; and this, as we have seen, proves especially

injurious to those who are prone to liver disturbance. It has been found that the injurious effect of alcoholic beverages upon the liver increases in a direct ratio to the amount of sugar and spirit they contain. It would seem, indeed, that a mixture of spirit and sugar produces injurious results, which would not be caused by taking a much larger quantity of spirit or sugar alone. Practically, we know that the alcoholic drinks which are most apt to disagree with the liver are malt liquors of all sorts, but especially stout and the stronger forms of mild ale, port wine, madeira, tokay, malaga, sweet champagne, dark sherries, liqueurs, and brandy; whilst those least likely to derange the functions of that organ are claret, hock, moselle, dry sherry, and gin or whisky, largely diluted.

Derangements of the liver from excessive eating, or from any other error in diet, usually first show themselves in middle life—from thirty-five to forty-five. Young people who take much exercise, and who are still growing, can eat more than they actually require with comparative impunity. But by the age of forty the body is fully developed, and most persons take less exercise than before, while at the same time they often indulge more freely in the pleasures of the table.

Insufficient muscular exercise in the open air may derange the functions of the liver. It is well known that sedentary habits, and living in badly-ventilated rooms, act on the body injuriously, and more especially on the liver. It is a common observation that people who eat and drink too freely do not suffer from their livers so long as they lead an active life in the open air; but as soon as from change of occupation or other causes they take to sedentary habits, without any corresponding change in diet, derangement of the liver ensues. Every sportsman who has suffered from biliousness knows the effect of a day's hunting or shooting in clearing his complexion and relieving his symptoms.

A high atmospheric temperature is especially favourable to the production of disorders of the liver. We all know how frequently they occur in India and other tropical climates, and in our own the liver more often becomes disordered in summer than in winter. The draught, which is suitable in a cold or temperate climate, produces in the tropics liver derangement.

It is probable that many cases of liver disturbance are nervous in their origin. We know that sudden fear, and other forms of severe mental emotion, may arrest the secretion of the milk, and that, from the cessation of the secretion of saliva, the tongue cleaves to the roof of the mouth. Prolonged mental anxiety, worry, and incessant mental toil, interfere with the secretion of bile, and produce that chain of symptoms to which we shall presently refer. Such results are all the more likely to ensue if the diet has been such as to favour liver disturbance—if, for example, to drown grief the sufferer has indulged in stimulants.

In considering the causes of derangement of the liver, it must not be forgotten that there are constitutional peculiarities—inherited or acquired—in virtue of which the liver is upset by things which, under ordinary circumstances, would be harmless. Some people are more prone to suffer from their livers than are others. An innate weakness of the liver is often inherited. If an individual with this predisposition take spirits, even in comparatively moderate quantities, he usually suffers very quickly and also severely. Some people are always drinking, and apparently suffer

but little from it, whilst others have only to take a glass or two of champagne to be most frightfully upset.

We must now consider the symptoms which we recognise as indicating that the liver is out of order. In the first place, the tongue is usually covered with a thick fur, sometimes whitish, but occasionally of a yellowish or brownish tint. It is commonly large, pale, and flabby, and indented by the teeth. Nevertheless, it is well to remember that there may be considerable derangement of the functions of the liver, and yet the tongue may be perfectly clean, or at most only slightly coated in the morning.

When the flow of bile is deficient, the appetite is often very bad, and there may be a loathing of fat and of greasy articles of diet. Sometimes there is a loathing of everything except alcohol, indulgence in which intensifies the mischief. In exceptional cases the appetite may be excellent, even when the liver is performing its work very badly, and the patient is often tempted to eat what he knows from experience disagrees with him. Liver disturbance is often accompanied by a bitter or metallic taste in the mouth, especially in the morning. "Hot coppers" is a frequent complaint of those who have indulged too freely over-night.

Flatulence, or wind, is another common symptom. It is one of the most frequent results of a deficient flow of bile. From the absence of bile in the intestines, the food undergoes fermentation, and a large quantity of gas is generated. Acidity is another frequent source of trouble. Many articles of diet habitually disagree with people who suffer from their livers, so that they get bilious. They awake in the morning with a dry or clammy tongue, a bitter taste in the mouth, dull heavy headache, giddiness, and cramps or pains in the knuckles.

Functional derangement of the liver generally gives rise to disturbance of the bowels in some form or other. Most commonly there is constipation. The bile acts as a kind of natural purgative, and when it is secreted in diminished quantity there is nothing to stimulate the bowels to action. The motions are either unusually pale, or from long detention in the bowel become black and lumpy. The latter condition is often associated with great depression of spirits—the origin of the term melancholy. Very often, instead of constipation, there is diarrhoea, or the two conditions may alternate. It is probable that the retention of undigested food in the bowel, by setting up irritation, is the cause of the diarrhoea. It may be taken as a rule, that when little bile is secreted the stools are pale and unusually offensive, unless they be long retained in the bowel, when they may be dark and lumpy; and that when there is an excessive secretion of bile—an overflow of bile—the motions are relaxed and liquid.

In exceptional cases, bleeding from the bowel occurs as the result of simple derangement of the liver, without the existence of any actual permanent disease of that organ. It is not common, but is most frequently met with in people beyond the middle age. The attack is usually preceded by a feeling of oppression and heaviness, by pain in the right shoulder, loss of appetite, nausea, and furred tongue. It is often followed by a subsidence or cessation of the symptoms. Great relief is usually afforded by a good purge, such as a calomel, or blue pill, and a saline aperient.

Many people who suffer from liver complaint are subject to piles. In fact, some doctors have gone so far as to say that, if a person complains of piles, it should make you suspect that his liver is out of order. The two conditions are undoubtedly very frequently associated.

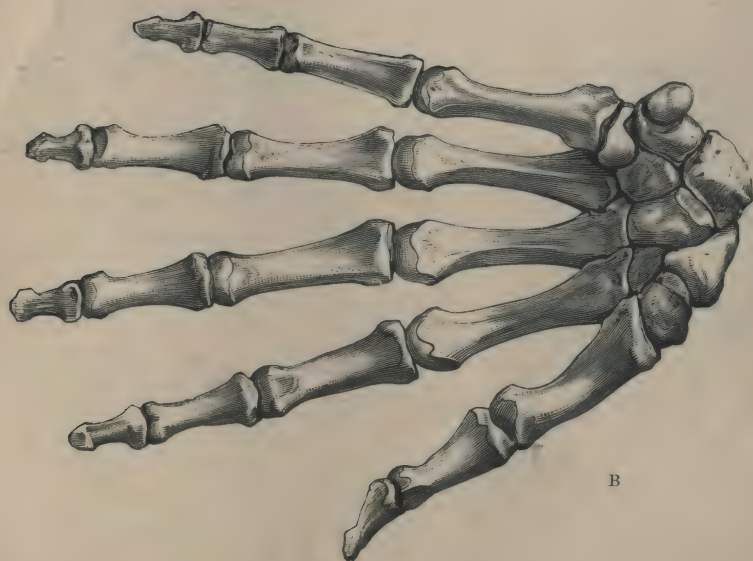
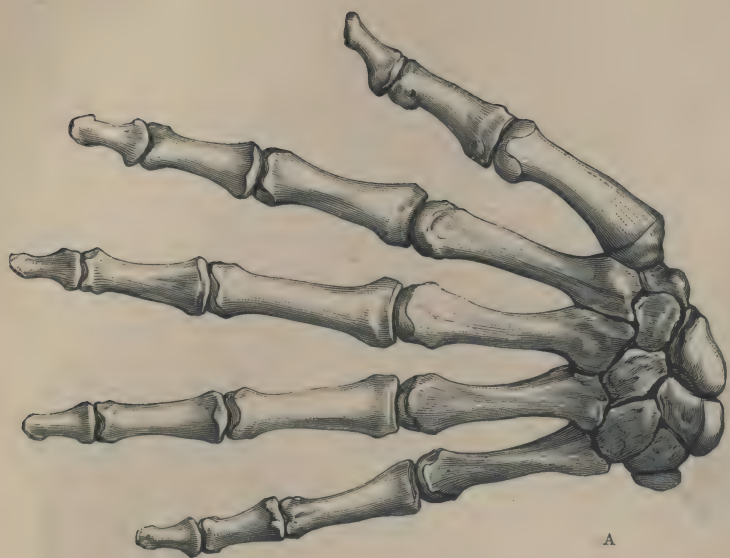
Often enough there is considerable derangement of the liver—it performing its functions very imperfectly—without any pain over the region of that organ. In many cases, however, there is a sensation of weight, fulness, tightness, or even burning, just below the ribs on the left side. When the bowels are neglected, or if the patient continue to indulge in rich food and alcoholic stimulants, the pain may become very severe. It is usually increased after meals,⁹ and by lying on the left side.

Aching pains in the limbs, and lassitude coming on about an hour after a full meal, sometimes associated with an irresistible tendency to drowsiness, are symptoms often resulting from the liver being out of order. Sometimes complaint is made of a dull heavy aching in the right or, more rarely, the left shoulder, or under the shoulder-blade. Burning or scalding of the palms of the hands and soles of the feet—a complaint very common with those who indulge largely in alcohol—is often an accompaniment of liver disorder. This curious sensation may be persistent, but far more frequently it is transient, coming and going by fits and starts. Cramps in the calves of the legs, the abdomen, and other parts are not uncommon, and are often very distressing. They usually come on during the night, occurring most commonly in cold or damp weather. They seem, in some instances, to be associated with a tendency to gout.

People whose livers act badly often suffer from headache. It usually takes the form of a dull heavy pain, either in the forehead or more frequently at the back of the head. It is experienced chiefly on awaking in the morning, and may either speedily pass off or last the whole day, or even for several days. This form of headache may in susceptible persons be produced by constipation, or by any little indiscretion in diet. Megrim, or sick head, is not always caused by liver derangement, but it is sometimes.

Giddiness, dimness of sight, double vision, and many other similar curious symptoms, are undoubtedly dependent in many instances on congestion of the liver and a deficient flow of bile. An attack may often be excited by certain articles, such as fat and sugar, which, as we have seen, are especially likely to disagree with bilious people. A good purge to rouse up the liver often succeeds in effecting a cure more quickly than anything. The case is recorded of a gentleman who was seized with dimness of sight and giddiness every night while writing. He took iron, quinine, and other tonics, but got worse instead of better. He was told that he must give up his profession for a time, and try the effect of change of scene and air; but before taking so serious a step, he took a few doses of blue-pill, and the symptoms at once and permanently disappeared.

People are often met with who complain of numbness, tingling and pricking sensations, as if the part were asleep, or a feeling of coldness or creeping in the arms or legs of one or both sides. These disagreeable sensations often last for months or years, and may be associated with headache, nausea, and depression of



BONES OF LEFT HAND.

spirits. They often cause needless alarm by exciting the suspicion that paralysis is imminent. They are frequently associated with, or dependent on, liver disturbance, and disappear under the use of calomel pill, salines, and a restricted diet.

Sleeplessness sometimes arises from derangement of the liver, and may then be speedily relieved by treatment directed to that organ.

The influence of the liver upon the animal spirits has long been recognised. There can be no doubt that in many cases depression of spirits, inaptitude for work, and general listlessness, are aggravated by torpidity of the liver. Many people with structural or functional disease of the liver are subject to fits of depression, and often suffer from groundless fears of impending danger, which cease when the liver is restored to its normal condition. Irritability of temper often arises from the liver. A man who has previously borne the crosses of life with equanimity, and has been amiable to those about him, gradually becomes disconcerted by trifles, his mind broods upon them, and he makes all around him unhappy, and himself the most miserable of all. His friends and relatives, failing to recognise the true nature of the case, too often put down his ebullitions of temper to something mentally or morally wrong, and he comes to be regarded as a most disagreeable fellow. Remedial measures calculated to restore the liver to healthy action, if resorted to in time, will often remove the irritability, and reinstate the patient in the good graces of his friends.

We must now proceed to the consideration of the treatment of these cases of liver disorder of which we have been speaking. In the first place, it must be borne in mind that regulating the diet will do you more good than any amount of physic. If you are not prepared to put yourself to a little inconvenience in the matter, and give up some of your accustomed luxuries for the sake of getting well, it is no good going to the doctor—you had better try the undertaker. You should never forget that that which may ultimately destroy life too often enters by the same portal as that which is intended to support it. For the maintenance of health it is necessary for most people to put a curb upon their appetites. It is all very well to go after rank, and reputation, and wealth; but they are very little good to you if your bile duct gets blocked up. What is the good of a baronetcy, for example, if you have to stay at home and live on blue-pills? If your liver shows any signs of performing its work badly, you had better take it in time, and cut off supplies. You will have to give up *entrées*, and shun all highly-seasoned dishes as you would the plague. Some people may get on very well with them, but they are poison to you. You had better label them mentally with a skull and crossbones. It is a shame for people to tempt you with them, but they will; and you will have to make a determined stand against them. It is a difficult matter sometimes; people are so persevering—especially women—and they never display their perseverance more persistently than in persuading you to eat or drink what you know is not good for you. This faculty is commonly called “hospitality.” If you are really very bad, you will have to give up not only your *entrées*, and sugar, and alcohol, but even potatoes, rice, sago, and fruit. It may be that your trouble is simply due to some one simple article of diet. You had better look out for that, and if so, cut it off at once. With many people, a diet consisting chiefly of stale

bread, plainly-cooked mutton, white fish, poultry, game, eggs, a moderate amount of vegetables, weak tea, cocoa, or coffee, answers better than anything. It is not very pleasant at first if you have been accustomed to gratify your appetite; but it is nothing when you get used to it. In time you will learn to laugh at people who eat anything that is put before them, without regard to their internal economy. You simply pick what experience has shown you is best for you; and who can blame you? If you did otherwise, people would only laugh at you behind your back, and think you stupid. If your liver is weaker than other people's perhaps your headpiece is stronger, so they have not much to boast about after all. At all events, it is a great thing to be able to talk rationally after dinner, and not to be reduced to a condition of semi-torpidity. Sometimes it is necessary to cut down the actual quantity of food taken; but this is not usually the case. In obstinate cases it sometimes proves beneficial to take the principal meal of the day the first thing in the morning, when the digestive powers are strongest.

As a rule, the very strictest caution has to be observed with regard to drinkables. Malt liquors, port, champagne, Madeira, Burgundy, have all to be given up, and must be reserved strictly for the use of your friends. Claret or a small quantity of spirits largely diluted will probably suit you better than anything; but sometimes, alas! even these may have to be given up. A man need never despair as long as his doctor leaves him gin and seltzer, only it must be a large quantity of seltzer to very little gin. The gin is useful in this way, that it carries off a great deal by the kidneys, and serves to rid the blood of much effete matter, which might otherwise prove injurious. Most people get on well without any stimulant at all; and it is the opinion of many who speak from personal experience that those who have much brain-work to do would be better if they did altogether without alcohol, or, at all events, took it in the very strictest moderation. Even for persons who for years have been indulging largely, there is very little risk in abandoning stimulants. Unless there is a weak heart, the only inconvenience experienced is a sinking at the pit of the stomach and a craving for alcohol, which a repetition of the stimulant has only temporarily relieved and has rendered more persistent.

Plenty of fresh air is very essential in every case in which there is anything wrong with the liver. An excess of fresh air will indeed often counteract the bad effects of too large a quantity of food. Out-door exercise quickens the flow of blood through the liver, and prevents the accumulation in the system of materials which would probably prove injurious. Sea air is especially efficacious in this respect, and many sufferers from liver derive immense benefit from residence at the sea-side and from sea-bathing, although, unfortunately, the good effects of sea air are often more than counterbalanced by unhealthy lodgings and badly-cooked food.

The free use of soda and seltzer water is useful in helping to eliminate morbid materials from the system. Many people derive considerable benefit from drinking a tumbler of cold water while dressing in the morning, and before going to bed at night. The action of the skin should be maintained by frequently bathing the entire body with tepid water.

In most cases of functional derangement of the liver, great advantage is derived from the frequent use of aperient medicines, whether there be a tendency to

constipation or not. Aperients bring away not only bile, but waste material from the blood. Saline aperients, from the promptness of their action and the large watery motions they induce, are among the best for the purpose. Recourse is usually had to Epsom salts (sulphate of magnesia), Glauber's salts (sulphate of soda), Rochelle salts (tartrate of potash and soda), or the phosphate of soda, or to various combinations of these salts with common salt (chloride of sodium), carbonate of soda, and other alkaline salts, such as are found in the waters of Carlsbad, Freidrichshall, Püllna, Harrogate, or Cheltenham, or in the recently-discovered Hungarian spring, Hunjadi János. The salts derived from most of these springs can be obtained from any chemist, and they are best taken with warm water, and in the morning fasting.

One of the most valuable remedies in cases in which the liver is out of order is *Blue-pill*. Of late years an attempt has been made by physiologists to show that mercury has no action at all on the liver in increasing the flow of bile. We do not know how that may be; but we do know that if you are bilious you cannot do better than take a dose or two of blue-pill. Everybody who suffers from biliousness knows what a great deal of good blue-pill will do him. He knows that there is nothing else like it. If anybody does not believe in medicine let him get right-down bilious, and then take a blue-pill. We believe that even the most sceptical would admit that there was something in it. Even supposing we agree to believe the physiologist, and admit that mercury is incapable of increasing the flow of bile in health, it by no means follows that it is inoperative when the liver is out of order. It is quite conceivable that mercury may remove certain unhealthy conditions of the liver which prevented the secretion of the bile. Surely it is far better to endeavour to restore the liver to its natural condition than to give an unhealthy liver a drug to make it work. Putting theory on one side, we all of us know practically that blue-pill removes what we call biliousness, and nobody in the world can deny that. The pill, taken at bedtime, may be followed by a saline aperient (Pr. 25), or black draught, in the morning. In many instances one of the sugar and grey powders (Pr. 71) given frequently will do almost as well as a large dose of blue-pill. These powders are especially indicated when there is a dull oppressive pain over the liver, preventing the patient from lying long on the right side; when the whites of the eyes are tinged with yellow; when the skin is sallow, when there is shivering followed by profuse clammy perspiration; when there is loss of appetite, a nasty taste in the mouth, and constipation, with pale-coloured motions.

Podophyllin is a very good substitute for mercury in some cases, when the latter cannot be used. It is, on the whole, less certain in its action than mercury, and more likely to cause griping. A dose that will purge one person violently often proves inoperative in another. Individual differences occur, it is true, with other purgatives, but podophyllin is unusually uncertain in its action. The time it takes to act also varies very much. It purges some people in an hour or two, whilst others have to wait about all day. Sometimes, instead of doing its work straight off and have done with it, it makes a number of ineffectual attempts, and is a long time before it succeeds. The following is a good formula for its administration, the henbane being supposed to reduce its tendency to cause griping:—

PODOPHYLLIN PILLS.

Resin of podophyllin, half a grain.

Powdered rhubarb, three grains,

Extract of hyoscyamus, three grains.

Make two pills. To be taken every night at bed-time.

In many cases very much smaller doses of podophyllin may be employed. The podophyllin solution (Pr. 51) may be used with advantage. It is a small dose, but it is of no use taking more than is really sufficient to do you good. Podophyllin succeeds best when nausea and giddiness, bitter taste in the mouth, risings, tendency to bilious vomiting, and purging, and dark urine, are the prominent symptoms. When there is dull pain over the liver, when the bowels are costive and the motions pale, when there is loss of appetite and depression of spirits, it does not do so well. Mercury, in either large or small doses, should then be tried.

Colocynth, Aloes, Rhubarb, Jalap, and Senna are all useful aperients in deranged liver resulting in constipation and deficient excretion of bile. Pr. 60 is a good purgative pill.

Dandelion has been in use for years as a popular remedy for liver. It is probable that most of the so-called dandelion pills that are so constantly advertised contain either mercury or podophyllin. Dandelion itself has little if any action on the liver, either in health or disease, and at the best it can but act as a mild aperient. Colchicum may be given with advantage to gouty persons suffering from liver, but in other cases it is not the best mode of treatment.

Chloride of ammonium (sal ammoniac) has been found of service in congestion of the liver, both in this country and in India. It should be given in water, in doses of twenty grains, two or three times a day. It is not by any means nice, the solution in water tasting uncommonly like brine, but it does good. If a difficulty is experienced in taking it, it may be administered in milk. It often induces perspiration, increases the flow of urine, diminishes the congestion of the liver, and removes the pain in that organ.

In many of the severer forms of congestion of the liver, especially such as occur in tropical climates, *ippecacuanha* may be given. It should be administered in the manner which will be recommended when speaking of its use in dysentery. This is not a mode of treatment which is required in ordinary liver derangement in this country.

Nux vomica often proves useful in the simple case of liver derangement resulting from the use of intoxicating drinks, excessive or stimulating food, sedentary habit or nervous exhaustion. It is also indicated when there is constipation with deep red urine. It is best given in the form of the *nux vomica* mixture (Pr. 44).

Bryony is indicated when there is enlargement and hardness of the liver, with shooting, stinging, or burning pain, increased on pressure, and constipation without inclination to go to stool. It should be given according to Pr. 49. It often acts admirably when given alternately with mercury.

Chamomile is useful in bilious attacks occurring in women and children from exposure to cold. It is indicated when there is nausea or vomiting of bile, yellow-coated tongue, and bilious diarrhœa.

Aconite is useful in sudden acute bilious attacks following chills, with high temperature, and slight jaundice. It may be given alternately with mercury.

Quite recently *Iridin* and *Euonymin* have been introduced as remedies for different forms of liver complaint. *Iridin* is the active principle of *Iris versicolor*, or blue flag, whilst *Euonymin* is obtained from *Euonymus atropurpureus*, spindle-tree or mahoo. Both powerfully stimulate the liver, and from their milder action on the bowels are in many cases preferable to podophyllin. The dose of *iridin* for an adult is four grains; of *euonymin* two grains. They may be made into pills either with sugar of milk or with a grain or two of extract of *byoscyamus*. With many people these doses taken at bed-time produce a sufficient purgative effect; but in other cases the purgation is insufficient or is delayed, and griping is then apt to ensue. The best way is to follow the pill by a dose of some saline aperient in the morning—the Pillna or Carlsbad water, for example—so that the bile secreted during the night may be fully and quickly evacuated. Neither remedy produces sickness or headache. *Euonymin* will usually remove a slight feeling of biliousness, but when the tongue is decidedly yellow, *iridin* is preferable. Another remedy is *Hydrastin*, the active principle of *Hydrastis canadensis*. It not only stimulates the liver, but acts as a general tonic. The dose is from one to two grains at bed-time.

Alkalies are very useful in the treatment of functional diseases of the liver. The greatest benefit is often derived from a course of alkalies, such as carbonate of potash, or soda, or lithia. Sometimes it is better to give the alkaline mineral waters, such as those of Vals, Vichy, or Ems. It is well to suspend their use occasionally, as they are apt, when long continued, to upset the stomach, but in cases in which they are indicated they are usually well borne. When there is much sleeplessness, a dose of bromide of potassium—fifteen or twenty grains—may be added to the water taken at bed-time. Should the waters in any case appear to be too weak, twenty grains of chloride of ammonia may be added to each dose for a few days.

Mineral acids are often employed in derangements of the liver. Nitric acid especially has been thought to have the power of augmenting the flow of bile, but this is very doubtful. The acids may be of use when there is debility and want of tone, but the chief good which they effect is probably by improving digestion. Sometimes both acids and alkalies may be given, not mixed, but the alkalies before meals and the acids after.

Tonics, as a rule, do no good in liver complaints, for they are apt to disagree. People often improve at once on substituting abstinence from alcohol with aperients, blue-pill, carbonate of soda, and careful regulation of the diet, for quinine, iron, the mineral acids, and stimulants. Opium is usually to be avoided when the liver is out of order—it increases the torpidity, both of liver and bowels.

When a patient has had a very bad attack of liver, and the more urgent symptoms have passed off, he will still have to be very careful of himself. The acid and gentian mixture (Pr. 15), with or without the addition of five drops of tincture of *nux vomica* to each dose, taken three times a day, often proves very useful at this stage. The diet may be rather more generous, particularly if the patient is much pulled down, although the greatest care must be taken to avoid everything likely to produce a relapse. Fermented liquors are still interdicted; and if wine be allowed

at all it should be given in small quantities, and well diluted. Hock, claret, and dry sherry are the best. You want your wines light, but you want them good. Regular exercise in the open air is enjoined, and if there is much debility, horse exercise is the thing. The bowels will require careful attention, and benefit will often be derived from waters which are not only purgative, but contain iron, such, for example, as the springs of Harrogate, Cheltenham, Leamington, Homburg, and Kissingen.

When on the high road to recovery, the sufferer from liver disorder will often derive benefit from the use of the nitro-muriatic acid bath. This is prepared by adding two ounces of strong hydrochloric and one ounce of strong nitric acid to two gallons of water, at a temperature of 96 or 98 degrees. Both feet are to be placed in the bath, while the legs and thighs, the region over the liver, and both arms, are sponged alternately, or the abdomen may be swathed in flannel soaked in the water. The process is to be continued for half an hour night and morning. It is absolutely necessary that a wooden tub should be used, as the acid very soon destroys any ordinary metal bath. The sponges and towels should be placed in cold water after use, or they too will soon be destroyed. It is not absolutely necessary to prepare a fresh bath on every occasion, and the same may be kept in use for several days. All you have to do is to add one drachm of hydrochloric and half a drachm of nitric acid with a pint of water, to make up for waste, and then to heat about a quarter of the fluid in an earthen pipkin, and so bring the whole up to the required temperature.

In many liver complaints the abdominal compress will be found useful. It consists of two or three thicknesses of linen rung out of cold water, placed over the seat of pain, and covered with a rather larger piece of oiled silk. The whole is kept in position by a flannel or linen roller passing round the body. It may be worn several nights in succession, the parts being well sponged with cold water and rubbed with a coarse towel on removing it in the morning.

In the treatment of functional diseases of the liver, rest and change are most valuable, both as means of cure and prevention. The worry of business and the burden of domestic cares should be removed for a time, and the monotonous scenes of every-day life exchanged for the hill-top and wild moorland. Should this be impossible, the long hours of mental and physical labour should be abridged, and more time given for the daily renewal of nervous energy. Man is a working animal, but it is very easy to do too much.

BLEEDING FROM THE BOWELS.

Blood in the motions is often due to piles. Ignorance of this fact sometimes gives rise to needless alarm. In every case in which the stools are found to be mixed with blood, the patient should be examined for piles, for often enough the blood does really come from the bowels. Hæmorrhage from the intestines is not of unfrequent occurrence in typhoid fever and dysentery. When blood appears in the stools it has generally undergone much alteration in character, the amount of change depending on the quantity and source, and also, to some extent, on the rapidity with

which it is poured out. When a little blood comes from the upper part of the bowels, and is slowly discharged, it is dark in colour, being sometimes quite black, and presenting a tarry or sooty aspect, so that its real nature may not at first sight be suspected. When the blood comes from the lower part of the bowel, near the extremity, it is often quite bright-red, and has undergone very little change. The quantity may vary from a mere streak to half a pint or more. It must be remembered that many medicines, such as iron and lead, stain the motions black, and this, of course, must not be mistaken for altered blood. Many people get very anxious if they find that their motions are black, but it occurs naturally when taking certain metallic substances.

The treatment of bleeding from the bowels does not differ essentially from that of bleeding from other parts of the body. In the first place the patient should be made to lie down in a cool room, and should be kept as quiet as possible. Cold wet compresses should be applied to the abdomen, and if there is any one particular spot where pain or tenderness is experienced, or from which there is reason to suppose the hæmorrhage proceeds, a bag or bladder of ice should be applied on that region. Some astringent medicine must be given internally, and one of the best for this purpose is the acetate of lead mixture (Pr. 30), a dose every four hours. Should this not be at hand, perchloride of iron (Pr. 1 or 2) or gallic acid (Pr. 29) may be used. Thirty drops of turpentine taken in milk will often succeed better than anything; it should be repeated every three hours until the bleeding ceases. A very simple and efficacious plan is to inject ice-cold water into the bowel. In these cases, too, the tincture of hamamelis virginica often succeeds admirably. A drop should be given in a tea-spoonful of water every quarter of an hour for the first hour, and then two drops every second or third hour. It is most likely to do good when the blood is dark in colour.

The energy with which the treatment should be pursued, and the question as to whether a doctor should be called in or not, must obviously depend on the amount of bleeding.

BLADDER, DISEASES OF.—(See *Diseases of Kidney and Bladder*.)

BLEEDING FROM THE STOMACH—HÆMATEMESIS.

Hæmatemesis, or hæmorrhage from the stomach, must be regarded simply as a symptom of disease, and not as a disease itself. It occurs in the course of many morbid conditions of the stomach and other organs. As a primary or idiopathic condition it is practically unknown; we never meet with bleeding from the stomach analogous to the bleeding from the nose which is of such frequent occurrence in children and young people.

But hæmorrhage from the stomach, occurring in connection with other constitutional hæmorrhages, or in their stead, is by no means uncommon. Not infrequently hæmatemesis is vicarious of menstruation, replacing the periods month after month with the greatest regularity. The case is recorded of a young woman who became the subject of hæmatemesis recurring at the monthly periods about the

age of fourteen. She had never menstruated in the usual way. This occurred until she married, and in due time became pregnant, whereupon the hæmatemesis ceased. She brought forth her infant, but during the period of suckling the hæmorrhage did not recur. It came on again soon after she ceased to nurse the child. No regular menstruation from the womb ever happened. This form of hæmorrhage is not, as a rule, dangerous, and has little tendency to shorten the life of those who are afflicted with it. Sometimes, however, it does prove dangerous, the exhaustion from the mere loss of blood causing considerable alarm for the patient's safety. Two instances are recorded of suppressed menstruation being followed by copious hæmorrhages from the stomach, which ultimately proved fatal. In neither of these cases was the health seriously deranged, nor previously to the onset of bleeding was there any debility or constitutional disturbance which could have afforded the slightest suspicion as to the unfortunate termination of the illness.

In the majority of cases hæmatemesis is dependent on some injury to, or disease of, the stomach. The affections of the stomach in which it is most likely to arise are ulcer and cancer. It is sometimes a consequence of swallowing irritant poisons. Hæmorrhages from the stomach may be the result of congestion of the stomach, arising from disease of the heart, or liver, or spleen. People who have injured their livers by excessive drinking often bring up blood from the stomach. Hæmatemesis may also occur in the course of yellow fever, sea-scurvy, and some other diseases.

Vomiting of blood is more common in women than in men. It is usually preceded by a sensation of weight and uneasiness at the pit of the stomach, and by nausea. It may also be ushered in by paleness of the face, dimness of vision, and a feeling of faintness. The hæmorrhage commonly produces great depression, owing partly to the alarm which, naturally enough, is always engendered by "spitting blood," and partly from the quantity of blood actually lost. In bleeding from the lungs, as we shall see presently, the blood is brought up by coughing, in mouthfuls at a time, is of a florid red colour, is frothy, and is frequently mixed with sputa. Moreover, bleeding from the lungs is usually preceded by cough, shortness of breath, with palpitation, tickling in the throat, and a peculiar sensation in the chest. We shall have more to say on the mode of distinguishing bleeding from the stomach from bleeding from the lungs, when speaking of the latter complaint. A difficulty in making the diagnosis may arise either when the blood is vomited immediately after its effusion into the stomach, so as to escape the action of the gastric juice, or when that proceeding from the lungs has been swallowed and subsequently vomited in an altered condition. Hæmorrhage from the stomach is seldom, if ever, the first symptom of disease of that organ. The patient has usually for some time been complaining of dyspeptic symptoms, and has suffered from pain in the stomach, nausea, or vomiting.

When a large quantity of blood is poured out into the stomach, it appears to have a nauseating and emetic effect, and is soon rejected by vomiting. The dark colour which it presents is due to the action of the gastric juice, and the degree of blackness will be in proportion to the relative quantity of the acid which it meets in the stomach, and the intimacy of the admixture. Sometimes

the blood is clotted and not much altered in colour, and sometimes it is brown, of a chocolate tint, or like coffee-grounds. Sometimes, when the quantity of blood poured out into the stomach is small, it may pass into the intestines and be voided with the motions. In this way it may escape recognition either from the stools not being examined or from the changes in appearance it has undergone in its passage through the alimentary canal.

Even when it can be shown that the blood has been vomited it is not a proof that there is disease of the stomach. The blood may have proceeded from the mouth or nose, and have been involuntarily and unconsciously swallowed. This is very likely to happen during sleep, especially to young children, and as the blood when subsequently vomited is coagulated and mixed with food, it is scarcely possible to say from its mere appearance that it has not arisen from bleeding from the stomach. We may in these doubtful and difficult cases succeed in arriving at a correct conclusion by a careful inquiry into all the circumstances of the case, and an examination of the mouth and nose. Hæmatemesis is a complaint which is not infrequently feigned, either for the sake of avoiding some punishment, or with the view of exciting compassion. A young girl who was anxious to avoid the constraints of a convent, pretended that she was suffering from severe hæmatemesis. In fact, on several occasions, she vomited large quantities of blood in the presence of the physicians who had been summoned to her assistance. It was not till long after, that it transpired that she had swallowed the blood, which had been conveyed to her secretly from the neighbouring shambles.

Severe hæmorrhages from the stomach are occasionally directly fatal; and this is more likely to occur when the bleeding results from cirrhosis of the liver—the form of liver disease caused by drink—than when it originates in ulcer or cancer of the stomach. In the last-named disorders hæmorrhage is often dangerous from the exhaustion and anæmia it produces. At the same time a very large number of patients with hæmatemesis recover from the most hopelessly anæmic states; and we should never despair of saving the patient until life is actually extinct.

Next, as to the treatment of hæmatemesis. What should you do in the case of a person vomiting blood? In the first place, keep your head steady. No noise, no hurry, no talking. Stand back, please, and give him plenty of air. Make him lie down, undo his clothes, open the windows, and you, sir, go and get some ice, as sharp as you like. When the ice comes, break it up, give him little pieces to swallow—ice pills—and rub a great lump all over his stomach outside. If you have an astringent or astringent mixture in the house, give him a dose; you can be doing this whilst they are gone for the ice. If you have either the acetate of lead mixture (Pr. 30), the perchloride of iron mixture (Pr. 1), or the gallic acid mixture (Pr. 29), give three table-spoonfuls at once; or, if you have any tincture of steel, give a tea-spoonful of this in a glass of water; or, if you have liquid extract of ergot, give a tea-spoonful of this in water; or, if you have oil of turpentine, give a tea-spoonful of this in water or milk; or, if you have gallic acid or tannic acid, give one of these in water. The dose of either gallic or tannic acid is fifteen grains,

but if there is much bleeding do not stop to weigh it, throw a little into a tumbler of water, stir it up, and make him toss it off. If you have nothing but alum, this must do; dissolve some in water, and make him take that, and give him some pieces to suck as well. Should faintness occur, it need excite no alarm, as it favours the coagulation of the blood, and may tend to arrest the bleeding. Should the faintness persist, iced champagne is an excellent restorative, and is not likely to excite vomiting.

After the first sharp bout is over, and all immediate danger is passed, abstinence from solid food should be enjoined, with perfect rest in the horizontal position. The room should be kept cool, and iced acidulated drinks should be taken at intervals. It may be necessary to continue the use of one of the astringent mixtures. Probably the best is the acetate of lead (Pr. 30), two table-spoonfuls being taken either every three or four hours, according to the condition of the patient. After a severe attack it may be necessary to abstain from giving any solid food by the mouth for some days, the strength being supported by nutritive injections. If anything is given by the mouth it had better be milk or beef-tea; but these must be cold, and nothing hot is to be taken. When there is much prostration it may be necessary to resort to the use of beef-tea enemata, containing a little brandy and twenty drops of laudanum. The laudanum allays the excitement, but should not be given oftener than three times a day, and its use should be discontinued as soon as possible. We have recommended the addition of brandy where there is much exhaustion, but stimulants should not be given unless there is some absolute necessity for them, as they are very apt to excite the bleeding. In some cases it may be necessary to give cream, raw eggs, essence of beef—Brand's is the best—various broths, and perhaps even cod-liver oil. When the bleeding is known to be dependent on liver disease, a good purge, say a compound jalap powder, or a three-grain calomel pill (Pr. 61), at bed-time, and a black draught in the morning, will do good by getting rid of the congestion, but this treatment would be hurtful in either ulcer or cancer of the stomach. When the complaint becomes chronic, and there is only a little spitting of blood occasionally, the gentian and acid mixture (Pr. 15) will often answer well, and the quinine mixture (Pr. 9) also proves valuable in many instances.

We have by no means exhausted all our remedies for hæmatemesis. We have already had occasion to refer to the employment of hamamelis virginica in different kinds of bleeding, and it succeeds capitally in hæmorrhage from the stomach. The tincture should be given in drop doses in water every ten minutes, until the bleeding is arrested. By many people it is considered to be the best remedy in these cases, and undoubtedly it often acts admirably. When the hæmorrhage is accompanied or preceded by flushed face, shiverings, and quick pulse, aconite should be given according to Pr. 38. When the blood is bright red, and the face is pale, ipecacuanha should be tried (Pr. 50). It is often used after or in alternation with aconite. Ipecacuanha is especially indicated in hæmatemesis vicarious of menstruation. In these cases, when the catemenia desert their natural channel and seek an outlet through the stomach, it will be well, while means are taken to discourage the hæmatemesis, to endeavour to solicit the discharge in the right direction. And we

often succeed in this object by placing leeches upon the groins of these patients immediately before the period when the vicarious menstruation is expected, and by putting their feet at the same time into hot water, or even by laying the patient in a warm bath.

In all cases of bleeding from the stomach the attendance of a medical man is necessary.

BLOOD-SPITTING.

If a person spit up more than a few drops of blood, we should advise him to see his doctor and have his chest examined. Quite a large quantity of blood may be spat up, and nothing come of it; but still it is well to be cautious, and in such a case as this it is really absolutely necessary that the matter should be thoroughly investigated. The most common cause of blood-spitting is consumption; but there are other causes, and it does not absolutely follow because a man spits blood that he is consumptive. Sometimes the blood comes up without any warning; but people who are subject to hæmoptysis—as spitting of blood is technically called—often know by experience what is about to happen. It is generally coughed up a mouthful at a time, but sometimes we have seen it come up in gushes—nay, almost in torrents. The quantity may vary from a mere streak to a pint or more. The blood is generally bright red and frothy; but occasionally, especially when it is discharged suddenly, it is dark in colour. There may be clots, but usually it is entirely liquid. The attack varies much in duration: it may be all over in a minute or two, or the expectoration may be tinged with blood for days together.

In a person disposed to bleeding from the lungs, the onset of an attack may be determined by a variety of causes. Anything which hurries the circulation will have a tendency to excite the hæmorrhage—straining of any kind, great bodily efforts, active exercise, much talking, and more especially public speaking or singing, or playing on wind instruments.

When a man brings up blood we must try and find out where it comes from—does it come from the lungs or from the stomach? Sometimes this problem is easy enough to solve; at others it is most difficult. If a man is known to be consumptive, we suppose that the blood comes from his lungs; and if a young woman has long suffered from symptoms of ulcer of the stomach, we naturally enough conclude that the hæmorrhage is gastric in origin. Even when we know nothing about the previous history of the patient, the circumstances of the attack may serve to throw some light on the subject. In bleeding from the lungs the blood is generally coughed up in mouthfuls; but in bleeding from the stomach it is vomited profusely. When the blood comes from the lungs it is frothy, and of a florid red colour; when from the stomach it is not frothy, and is dark in colour. When the blood comes from the lungs, it is mingled with phlegm; when from the stomach, it is mixed with food. After bleeding from the stomach, the motions are often black or contain blood; but in bleeding from the lungs this symptom is absent. For convenience of reference and comparison we have arranged these symptoms in parallel columns:—

In Bleeding from the Lungs—

The patient has previously suffered from cough, shortness of breath, or other chest symptoms.

The blood is coughed up in mouthfuls.

The blood is frothy, and of a florid red colour.

The blood is mingled with phlegm.

The bleeding is not followed by blood in the motions.

In Bleeding from the Stomach—

The patient has previously suffered from loss of appetite, vomiting, or other stomach symptoms.

The blood is vomited up profusely.

The blood is not frothy, and is dark-coloured.

The blood is mixed with food.

The bleeding is often followed by black motions, or they may contain blood.

These are the rules, but there are many exceptions. On paper, it looks a very easy matter to distinguish between these two different kinds of bleeding; but practically there is often a difficulty. For instance, a man who is spitting blood from his lungs may accidentally swallow some of it, and then that may give rise to nausea and vomiting; or, on the other hand, a man who is vomiting blood may in his hurry and excitement draw some into his chest, and then it would set up coughing, and might be expelled again, mixed with phlegm. These rules will help you in making the diagnosis; but your own common sense will do more for you than anything.

Sometimes bleeding from the nose is mistaken for spitting of blood. When a person is lying down, blood from the nose readily passes backwards into the throat, and when spat up might excite unnecessary alarm. Bleeding from the gums has, in some cases, been mistaken for something more serious; but an examination of the mouth will at once show the real nature of the case.

What is to be done when any one is spitting blood? In the first place send for the doctor; and if it is coming up quickly, remember that there is no time to be lost. If you have any gallic acid or tannic acid in the house, put half a tea-spoonful into a little water, and make your patient drink it off at once; or if you have the perchloride of iron mixture (Pr. 1), or the acetate of lead mixture (Pr. 30), give two table-spoonfuls of either, the latter by preference. If you have nothing else, give some pounded alum and water, or even salt and water. Half a tea-spoonful of common salt put on the tongue dry, and gradually swallowed, is by no means a bad remedy. Send for some ice, and give the patient some to suck, directing him to swallow the small pieces. If the bleeding is not arrested, put some ice on his chest or back next to the skin; you may wrap it up in a towel or handkerchief, if necessary. If you can get no ice, and the bleeding is very bad, you may throw some cold water over the chest and back, or use a towel wrung out of cold water. A very good remedy, and one that is easily obtained, is turpentine. Put some on a handkerchief, or into the palm of your hand, and hold it under the patient's nose, directing him to inhale the vapour. This will often succeed when everything else has failed, and it is a method of treatment which is available even when the patient cannot swallow.

The energetic treatment we have advised is necessary only in bad cases—where the blood is really coming up in gushes, and life is endangered. When the blood is

spat up only a little at a time, we may proceed more leisurely in the administration of our remedies. The patient should be put to bed in a cool well-ventilated room. He should have plenty of ice broken into small pieces to suck and swallow, and he should take the acetate of lead or gallic acid mixture every four hours. Everything should be taken quite cold. His fears should be calmed, and he should be kept as quiet as possible both mentally and bodily. If the cough is very troublesome, a tea-spoonful of the morphia linctus (Pr. 56), or a dose of the ordinary cough medicine, should be taken when necessary. It is very important to keep the cough quiet, or it may start fresh bleeding. If the bowels are confined, a purgative should be given at once, and one or two loose motions will do good. No stimulants of any kind should be given: this is very important. A glass of hot brandy-and-water given to a man spitting blood might kill him, so that you must be very particular on this point. If he complain of thirst, you may give him as much iced water or iced milk as you like, but nothing in the shape of stimulants.

There are several other remedies for spitting of blood which may have to be employed in obstinate cases.

The liquid extract of ergot, given in half tea-spoonful doses in water every three or four hours, often succeeds admirably. In very severe cases it may even be given hourly for the first three or four hours. The addition of ten drops of laudanum to each dose increases its efficacy, but the laudanum should not be given oftener than every four hours. In apparently hopeless cases the injection under the skin of a concentrated extract of ergot—known as ergotine—has often saved life; but this is a mode of treatment which can be resorted to only by a medical man.

We have already spoken of the inhalation of turpentine as a valuable means of arresting bleeding from the lungs. Not uncommonly it is also given internally. Thirty drops of oil of turpentine are dropped into a wine-glassful of water, and taken every three hours. Not infrequently the turpentine, ergot, and laudanum are given together.

Ipecacuanha has obtained a high reputation in the treatment of the less severe forms of hæmoptysis. Three drops of ipecacuanha wine may be taken in a tea-spoonful of water every ten minutes for the first hour, and subsequently five drops may be taken hourly, or the ipecacuanha mixture (Pr. 50) may be used.

The tincture of hamamelis virginica often proves useful in spitting of blood. It is recommended chiefly in cases where the blood is dark in colour, and the flow is not very rapid. The dose is one or two drops in water every two or three hours.

Aconite often succeeds admirably in checking spitting of blood. The great indication for its use is elevation of temperature. It may be given in the form of the aconite mixture (Pr. 38), as directed.

Tincture of arnica is the remedy to employ when the bleeding has resulted from mechanical violence, as a blow on the chest. It is to be taken internally—a drop in a tea-spoonful of water every ten minutes for the first hour, and subsequently hourly. In many cases, dry cupping over the back or chest arrests the bleeding more quickly than anything. Good results are said to follow the application of the hot-water bag to the upper part of the spine.

BOILS.

We feel that it would be superfluous to attempt to define a boil. Most people have a pretty clear idea of what they are like. A man who has once had a boil is not likely to forget it. It is a kind of thing that impresses itself on the memory. It makes, if not a favourable, at all events a lasting, impression.

Boils are not particular where they come. As a rule, they prefer the posterior region, and then a chair becomes a useless article of furniture. They are not averse to making their appearance on the back of the neck, just where the edge of the collar catches you. Sometimes they come on the back, just under the braces, and a favourite spot for them is on the forehead, where it is rubbed by the rim of the hat. Although often out of sight, they are seldom out of mind. Sometimes they come singly, but, on the whole, they prefer to come in crops, or in a series of crops, one after another. Some people are very susceptible to them, and generally have one or two about them somewhere. In these peculiarly gifted individuals they come out on the very slightest provocation. You put a poultice on to cure one, and half-a-dozen others, flattered by the attention, make their appearance. Occasionally a blister is followed by a crop of boils, and an ordinary plaster has been known to bring them out.

A boil is of no practical value. It is said that everything has its use, but this certainly does not apply to boils. They are of no use; and few people consider them ornamental. They do not improve your personal appearance, and they do not add to your comfort. We are told, on good authority, that in many cases they must be looked upon as salutary, as being the means adopted by Nature to rid the system of morbid matters that irritate the constitution. This may be, but a boil is a violent remedy. Most people, if they had the choice, would prefer a less energetic means of having the system cleared out. Scientific doctors usually call them *furunculi*, but even then they are rather painful.

It is very difficult to say what boils are due to. They are generally ascribed to a "disordered condition of the blood," or to "atmospheric causes," or to "depressing influences." As a rule, they come in spring; but they appear to have no particular objection to summer, autumn, or winter. They are far more prevalent some years than others: 1857 and 1858 were good boil years. They usually make their appearance at especially inconvenient times, and they commonly pay a pretty long visit. As a rule, they prefer stout, full-bodied people; but in default of better material, they will attack the anæmic and debilitated. They take an interest in athletic sports, and those who are in training often make their acquaintance. They are often to be found in company with the now almost extinct animal—the prize-fighter. They seem to be favourably disposed to good living, for they often put in an appearance when people take to living on a more liberal scale. When a young woman "goes to service" for the first time, she often develops boils. She has probably been living in the country all her life, and has had plenty of out-door exercise and not too much to eat. When she comes up to London she seldom gets out till after dark, and eats meat three times a day, and the result is—boils. The subjects of saccharine diabetes often suffer frightfully from boils, and in them they are by no

means easy to cure. It is stated that boils and carbuncles often come from eating the flesh of animals who have died of the disease called pleuro-pneumonia.

As a rule, boils display a particular affection for young people. They are fond of children. They often come out during convalescence from fevers and other exhausting diseases. They sometimes result from over-suckling.

There are two forms of boils. They are so closely related, that if one had one's choice it would be difficult to know which to prefer. The ordinary boil is lumpy, definite in extent, and prominent on the surface, whilst the flat or blind boil is less definite in its outline. The common boil usually begins as a little lump beneath the skin. At first it is not very painful, but subsequently it makes up for any deficiency on this score. As it increases in size it seems to irritate the surrounding tissue, which presents an angry appearance. After a time the external swelling becomes more pointedly conical, and acquires a bright-red blush on the surface. The pain is usually of a piercing, throbbing character, sometimes varied, by way of a change, by a distressing sensation of tension and weight at the part affected, the surface of which becomes exquisitely sensitive to the slightest irritation. In from four to eight days the boil bursts and lets out a little matter, disclosing a little opening leading straight down to the greenish-yellow core beneath. A day or two later this core comes away, leaving a large hole. The trouble is now nearly over. The subsequent progress towards recovery is rapid. For a day or two longer a little thin matter is discharged, and then the hole gradually fills up, leaving behind nothing but a small, depressed, and slightly-discoloured spot.

The flat or blind boil generally commences in a small inflamed pimple, surrounded by a red and exquisitely tender ring, ill-defined in its margin. The pain is from the first of a throbbing character, keeping time with the beating of the heart, and is greatly increased by anything that quickens the circulation. The boil, when it bursts, discharges a little matter, but the core is usually far smaller than in a common boil.

Boils, as a rule, give no notice of their coming; yet not infrequently individuals who have had much personal experience of boils can anticipate the appearance of each fresh visitor by the occurrence of a certain feeling of general discomfort and chilliness, while in others the eruption is preceded by a transient irritability and querulousness of temper.

What is the best remedy for boils? Sulphide of calcium, undoubtedly. A tenth of a grain should be taken hourly, or every two or three hours, or Pr. 78 may be employed. It lessens the inflammation, and reduces the area of the boil. Moreover, it liquefies the core, so that it separates more speedily, and the troublesome little visitor is induced to take its departure. When the skin is not yet broken, and the slowly separating core not exposed, this medicine often converts the boil into a little abscess, which soon bursts, and the whole thing is over. If the sulphide is taken sufficiently early, the boil often dries up, the inflammation subsides, and a hard knot is left which disappears in a few days without the formation of a core, and without any discharge. The sulphide exerts a marked influence on the general health, removing the debility and *malaise* so frequently associated with these eruptions. Not only will the sulphide of calcium, taken in the manner we have indicated, cure existing boils, but

it will often prevent the formation of fresh ones. There are certain local measures which may be advantageously adopted, in addition to taking the sulphide of calcium. When you send to the chemist for your powders, tell him to forward you a bottle of liniment composed of equal parts of belladonna liniment and glycerine. At the same time order a piece of belladonna plaster, three inches square: the best is that spread on leather. Now cut a hole in the middle of your plaster about the size of the boil, and apply it so that the boil protrudes through the aperture. You will find no difficulty in making your plaster stick if you warm it for a little time before the fire. Next, daub the boil gently but thoroughly with the liniment. Lastly, put a small linseed-meal poultice over the whole, taking care that it does not extend beyond the plaster. Change the poultice as often as it gets cold, and each time apply fresh liniment freely to the boil. The belladonna liniment helps to reduce the inflammation and allay the pain. We have already mentioned that a poultice applied to the skin in the neighbourhood of boils often brings out a fresh crop. The object of the plaster is to protect the healthy skin from the direct contact of the poultice. This is the best treatment of boils with which we are acquainted. We have had considerable experience of it, and we are enabled to speak of it most favourably. Of course, when a tendency to boils is known to depend on any particular cause, that cause should as far as possible be removed. We must mention that sulphide of calcium occasionally fails, and in the deep-seated boils resulting from diabetes it usually does no good.

The sulphurous waters of Harrogate are often resorted to for the cure of boils. They contain sulphuretted hydrogen; the gas into which the sulphide of calcium is converted when taken into the system. The milder springs, such as the Mild Montpelier Well, usually prove most efficacious.

Belladonna, which is so serviceable when applied locally, often does good when taken internally. Of course the belladonna liniment is not intended for internal administration. The tincture of belladonna is for this purpose the right preparation. The dose is two drops every two hours in a little water. This is equivalent to two tea-spoonfuls of the belladonna mixture (Pr. 39). It does most good when administered in the early stages, before matter has formed. When there is matter the sulphide of calcium is much to be preferred.

A very good local treatment for boils consists in the application of flexible collodion, which should be painted over the part with a brush. This is applicable only to boils which have not yet burst. It is desirable to apply fresh coatings of collodion over the old ones, allowing them to remain until the boil has dried up and the sore place completely disappeared. This treatment has also the advantage of allaying the great irritation which often accompanies the early stage of boils.

We are told on good authority that, in a certain limited number of cases, yeast taken fasting in table-spoonful doses three times a day does good. It is added that its use need not be continued longer than a fortnight or three weeks. We have had no experience of this method of treatment, but if we could not cure the boil with sulphide of calcium in a very much shorter time than that, we should be ashamed of ourselves. In some very obstinate cases it might be worth trying.

It is said that in the earlier stages boils may be cut short by rubbing in first tincture of camphor, and then olive oil, three times a day.

A good remedy for preventing the recurrence of boils is sulphur. A few grains should be taken three or four times a day. Ten-drop doses of dilute sulphuric acid taken twice a day before meals will prove equally serviceable.

Sufferers from boils require "feeding up." "A low diet" is seldom called for. Attention to diet, cleanliness, and healthy out-door exercise and recreation, will do much towards eradicating a predisposition to boils; but when they do come, sulphide of calcium is *the* remedy.

BRAIN—DISEASES OF THE BRAIN.

The brain, like every organ in the body, is liable to many diseases, and sometimes, it must be confessed, it is not easy to detect their nature. We do not know as yet quite as much about the healthy brain as perhaps we ought to; we know that it is a complicated organ, but physiologists are not agreed about the function of each part. Encased as it is in a bony covering, it is not very easy to get at. We can ascertain the condition of most of the internal organs by different modes of examination with almost as much certainty as if we could see them. If we want to find out if there is anything the matter with the heart or lungs, we sound the chest and listen to it, and the problem is at once solved. Or if we want to know anything about the stomach, we look at the tongue; or if about the kidneys, we examine the urine. In brain diseases we can employ none of these methods of examination; and, moreover, the intellect is often interfered with, so that we are cut off from the information we might derive from the statements of the sufferer. We have the ophthalmoscope, it is true, by which the eyes can be examined and some information obtained about the condition of the brain, but it wants special skill and experience to use that instrument, and its teachings are often far from reliable.

There is one thing—disease of the brain is not likely to be overlooked or mistaken for anything else. A man has an apoplectic seizure, for instance, or becomes maniacal, and you can make no mistake about that. No, you are far more likely to suppose that you have to deal with some very serious disease of the brain, when in reality it is nothing but dyspepsia, or the liver is a little bit out of order. People who live in large towns often get very much worried and bothered about their work, their business, or whatever it may be. They get anxious and despondent, and very often think they have some disease of the brain, or that they are going mad. This is simply the result of over-work, and nine times out of ten it means nothing serious. The best remedy for it is bromide of potassium, fifteen grains, dissolved in a little water, three times a day, or it may be given in the form of the bromide of potassium mixture (Pr. 31); this, combined with rest and change of air and scene, will usually make these so-called brain symptoms disappear like magic. After a time phosphorus (Prs. 53 and 54), or the hypophosphites (Pr. 55), will do good. Phosphorus is a brain food, and is an excellent remedy in all disorders of that organ.

Many people whose blood is poor suffer from a deficient supply of that fluid to the brain; this gives rise to many disagreeable symptoms, but more especially to

headache. The pain is usually felt in the temples and at the top of the head. It is not very severe, but is just as if something were pressing down and out from the inside. It is increased by abstinence from food and by the erect posture, and is often removed by lying down. It is intensified, too, by thinking, reading, writing, &c. It usually comes on in the morning, during dressing, goes off after breakfast, comes on again before luncheon, and so on. The pain is often throbbing in character, and is accompanied by a feeling of fulness and weight, so that people often think there is determination of blood to the head. In addition to the headache there may be noises in the ears and a general sense of pulsation all over. The noise is heard on both sides, and is rumbling and low-pitched, like distant cart-wheels. All these symptoms soon pass off when a little attention is paid to the general health. The great thing is to take plenty of good nourishing food, and to remove the anæmia, or poorness of blood, by iron and the other remedies recommended when speaking of that complaint.

The reverse condition—congestion of the brain—is not of infrequent occurrence. It may be met with in the course of different fevers, when it is often the cause of delirium, or it may occur quite independently of any other disease. Old people whose tissues and blood-vessels are decaying not unfrequently suffer from this condition. They find it comes on when they are weak or cold, or when they have been over-exerting themselves, as in straining at stool or going up-stairs. Congestion of the brain is undoubtedly in many cases due to a tight cravat or shirt-collar, and people who have a tendency to apoplexy should look to this. It is a good rule to have the collar so big that you can get both hands in between it and the neck. A patient who suffers from congestion of the brain gets dull at times, and confused with regard to the use of words. He cannot remember the names of people or things, nor can he remember events that happened long ago. He exhibits a tendency to fall asleep after meals, and gets habitually stupid. All his sensations are more or less obtuse, his hearing is not good, and even when he does hear a thing you have to repeat it three or four times before you can get him to understand it. He often complains of numbness and giddiness, and sometimes says he sees things floating about before his eyes, or hears rumbling noises in his ears. These symptoms are always worse after lying down, and are increased by a meal, and more especially by over-loading the stomach. Often enough there is a sense of general weakness and weight in the limbs, which seem dead and heavy. There is never any actual loss of power in the limbs, but every movement is attended with a sense of weariness or disgust. Sometimes the forehead is hotter than the cheeks, and the lips and ears and the loose tissue under the eyes are dusky red. The tongue is usually furred; there is indigestion; the bowels are sluggish, and often there is a tendency to shortness of the breath. One always fears in these cases that if the case be not taken in time, a fit may ensue. The great thing in the way of treatment is to pay attention to the general health, and see that the secretions are free. The bowels should be kept perfectly regular; and should there be a deficiency of urine, the amount should be increased by taking some simple saline mixture or mineral water. The mind should be kept as quiet as possible; and it is a good thing to sleep with the head well raised. Should the rest be disturbed, three table-spoonfuls of the bromide of potassium

mixture (Pr. 31) should be taken every night at bed-time. Such medicines as iron, quinine, quassia, and gentian, should be taken occasionally, with the view of maintaining the general condition of the health. Mixtures Prs. 1, 2, 3, 6, 9, 11, and 15 will be found useful for this purpose. Phosphorus and the hypophosphites (Prs. 53, 54, and 55) are especially indicated. Parrish's Chemical Food often does good.

Softening of the brain most frequently occurs in those whose health has been for some time below the average, or in people who are the subjects of some chronic and exhausting disease. It occurs most commonly in those over the age of fifty. Usually there is more or less severe and persistent pain in the head, with attacks of giddiness coming on suddenly and soon passing off. There is a diminution of intellectual power, an embarrassment in answering questions, depression of spirits, and an inclination to shed tears on the slightest provocation. There are commonly prickings and twitchings of the limbs, and sometimes pain or numbness. There is often a tendency to stupor, especially after meals; and, more or less, impairment of vision or hearing is not uncommon. Softening of the brain is a complaint in which the attendance of a doctor is absolutely necessary. In any case in which a tendency to softening is suspected, attention to the following points will prove of value:—
1. The body should be maintained at an even temperature; the feet and hands when chilly and blue should be put in hot water, or wrapped in and rubbed with warm flannels; and the head should lie low. 2. Long intervals between the meals should be avoided; food easy of digestion should be given frequently; and the patient, if old, should not be allowed to pass the night without nourishment. 3. When there is a tendency to faintness, some gentle stimulus, such as a glass of wine or a little sal volatile, should be given. 4. The mind should be easily and pleasantly occupied—lazy inaction being avoided on the one hand, and violent excitement on the other. 5. The bowels should be carefully attended to; constipation and straining at stool should be avoided, and so should the production by medicines of anything like active purgation.

In cases where there is paralysis, convulsions, insensibility, delirium, or any of the more serious symptoms of brain disorder, it will of course be necessary to obtain medical aid. In many brain diseases, iodide of potassium given in large doses, gradually increasing from five grains up to ten, twenty, or even thirty, three times a day, will do good even when everything else has failed; but this is a point on which you must be guided by your doctor. The iodide of potassium mixture (Pr. 32) contains five grains in the ounce; but when it is desired to give a larger dose, the solution can be made twice or three times as strong. It is in cases in which there is reason to suspect a syphilitic taint that iodide of potassium proves so eminently serviceable.

BRIGHT'S DISEASE.

This disease, which was named after the eminent physician who in 1837 first described it, is regarded by some as a disease of the kidneys, and by others as a general constitutional disease in which the kidney is affected. What should be its exact place in the classification of diseases is a matter which in reality concerns us but little. We can consider its symptoms and discuss its treatment equally well,

whether we regard it as a purely local disease, like stone in the bladder, or as a disease of the whole system, like gout or rheumatism.

It is a recognised fact that there are several different though closely-allied diseases included under the general name of Bright's. They have, however, one symptom in common, and that is that the urine contains albumen. Albumen is the substance which we know familiarly as "white of egg," and, normally, in a state of health it is not found in the urine. It is impossible to tell simply by looking at the urine whether it contains albumen or not. White of egg before it is boiled is a clear glairy-looking fluid, and if we were to mix a little of it with urine it would produce no change in its appearance. To ascertain the presence of albumen in the urine, we must submit it to examination. If we take a fresh egg, and break it, we obtain the yolk and the white. If we mix a little of the white with water, and put it in what chemists call a test-tube, and boil it over the gas, or a spirit-lamp, it coagulates, and forms a thick white deposit. When we wish to examine urine for albumen, we submit it to a similar procedure. We take a test-tube, half fill it with the urine, and then boil it. If we obtain a deposit we may suspect the presence of albumen, but cannot be positive about it, because naturally the urine contains certain salts called phosphates, which if present in large quantities are precipitated on boiling. The presence of phosphates in the urine is of not the slightest consequence, but the presence of albumen is a serious matter; hence the importance of distinguishing between these two bodies. This is easily done by adding a couple of drops of strong nitric acid (aqua fortis) to the boiled urine. If the deposit is due to phosphates it will at once disappear on the addition of the acid; but if it is owing to the presence of albumen it will remain unaltered. The quantity of albumen in the urine in Bright's disease varies very much. We have examined urine which became instantly and absolutely solid on boiling, so that the test-tube could be inverted. As a rule, however, the quantity is much smaller, and sometimes it amounts to little more than a distinct cloudiness. If on boiling a little of your urine in a test-tube, and then adding a few drops of nitric acid, you get no deposit, you may feel pretty sure that you are not suffering from Bright's disease. As a rule, albumen in the urine is of no moment unless it be in some quantity, or is detected on several different occasions. From the almost constant presence of albumen in the urine in Bright's disease, this complaint is often known as "albuminuria."

Even if you find albumen in the urine it does not mean of necessity that the kidneys are diseased, or that the person is suffering from Bright's. Albumen appears temporarily in the urine in the course of many fevers, disappearing as soon as the temperature returns to the normal. In women it frequently occurs during the later months of pregnancy. It is caused partly by the altered condition of the blood, which is natural to the pregnant state, and partly by the pressure of the womb on the veins which carry the blood from the kidneys. It does not, as a rule, show itself until the seventh or eighth month, and often not until the approach of labour. It is generally attended with swelling of the lower extremities, and sometimes also of the face and upper parts of the body. Under these circumstances it is usually of little importance, for in the large majority of cases it all disappears in forty-eight, and sometimes in twenty-four, hours after delivery.

Bright's disease may arise from many different causes, one of the most common being the somewhat complex process which is known as "catching cold." It is, of course, not every one who catches cold who has an attack of Bright's, but still on inquiry it will be found that the majority of people who are suffering or have suffered from this disease refer its origin to some exposure to wet or cold. Cold operating slowly and continuously is also a prolific source of Bright's disease. Persons whose occupations expose them to the inclemency of the season without adequate protection, those who work in hot workshops and are in the habit of going out to cool their heated bodies in the open air, the indigent classes who, insufficiently clad and ill-fed, dwell in damp cellars amidst dirt and squalor, furnish a large proportion of victims to this disease. The abuse of spirituous liquors also ranks high as a determining cause of Bright's. It is not the habitual drunkard only who exhibits this tendency to kidney disease, but the dram-drinker, who is in the constant habit of using ardent spirits several times a day without becoming actually intoxicated. Malt liquors, though far less pernicious than spirits, are, when largely indulged in, not without their influence in producing Bright's disease. In the case of a journeyman baker, the complaint was clearly traced to the patient's habit of fuddling himself with beer from Saturday night to Monday morning, a practice which he had previously followed for many years. Very frequently intemperate habits go hand-in-hand with exposed occupations, and it hardly excites our surprise to find that a large proportion of cases occurs among labourers, cabmen, carters, hawkers, glass-blowers, smelters, and puddlers. In many instances the disease is undoubtedly owing to some constitutional taint, such as scrofula; and among the more opulent classes gout is a prominent antecedent.

Bright's disease may occur either in an acute or in a chronic form. Acute Bright's disease may arise from any of the causes to which we have already referred, but in a large number of cases it follows an attack of scarlet fever. The functions of the skin are interfered with by the rash and the subsequent desquamation, or peeling, and an excessive pressure of work is consequently thrown on the kidneys. It is now well understood that kidney disease is not a necessary sequel of scarlet fever, and that the scarlatinal poison is, under favourable circumstances, eliminated entirely by the skin, so that it is only when the natural course of the disease is interfered with by some disturbing cause, such as exposure to cold, that it is diverted into other channels. The reason why dropsy so commonly follows a mild attack of scarlet fever is that little importance is attached to the disease, and no care is taken to protect the patient from the injurious effects of cold.

There can be little difficulty in recognising the onset of an attack of acute Bright's disease. A boy, we will suppose, has just recovered from scarlatina, and his friends, thinking that an airing will hasten convalescence, take him down the river on the steamboat for a good blow. Towards evening he is very tired, says he feels chilly, and is perhaps sick. The next morning he is worse, and complains of a dull aching pain in the back and limbs. His countenance is pale and puffy, and wears a heavy stupid expression, and there is distinct swelling of the limbs and trunk. The thermometer shows that there is fever, the pulse is hard and full, there is no appetite, thirst is excessive, and the skin is hot and dry. The urine is

passed in small quantities, and when the doctor examines it he finds that it contains a great deal of albumen ; there may even be some blood.

The attack may last for a period varying from a few days to some weeks. One of the earliest signs of a favourable termination is an increase in the amount of urine to three or four pints or more in the course of the twenty-four hours. At the same time the skin becomes moister, and the dropsy gradually decreases. An attack of Bright's disease, such as we have described, is a very serious matter, particularly from its tendency to give rise to lung complications ; but nevertheless, in the majority of cases, a favourable termination may be expected.

In every case of acute Bright's disease the doctor should be sent for without delay. As, however, medical assistance is not always at hand, we will indicate the general course of treatment to be adopted. The patient should be strictly confined to bed, should be wrapped up in flannels, and made to lie between the blankets. A large hot linseed-meal poultice should be applied to the loins, and changed every three hours, or oftener if necessary. A hot bath should be given every evening or every alternate evening, to promote the action of the skin ; or, when appliances are at hand, a hot-air bath may be advantageously substituted. A "blanket bath" often proves useful. A large thick blanket is wrung as dry as possible out of boiling water, and as soon as it is cool enough to be borne it should be wrapped round the patient, who is then to be covered with bed-clothes, which are to be heaped up over him. In twenty minutes or half an hour the wet blanket should be removed, and the skin quickly dried with a warm soft towel. Respecting the general management of the patient there is little more to be said. The room should be well ventilated, and should be kept at a moderate and equable temperature. At the commencement of the attack there is little desire for food, but considerable thirst—two natural indications by which we may be safely guided. The diet should be composed chiefly of light farinaceous food, and milk should be administered freely. The action of the kidneys may be materially promoted by getting the patient to drink plenty of water or any simple fluid, care being taken, however, not to allow him to over-distend the stomach by taking too much at a time.

Next, as to the medicinal treatment. If the complaint can be caught quite at its commencement, aconite is the best remedy. It should be administered in the form of the aconite mixture (Pr. 38) we have so frequently had occasion to use. The dose is a tea-spoonful every ten minutes for the first hour, and subsequently hourly. This treatment should be commenced immediately the nature of the complaint is suspected, and without losing time by waiting for the arrival of the doctor. Even if you are wrong in supposing that it is Bright's disease, no harm will have been done. You are nearly always safe in giving aconite when any one is feverish.

Respecting the subsequent treatment we have little to add to what we have already said when speaking of the treatment of dropsy. The bowels should be freely opened by compound jalap and bitartrate of potash powder (Pr. 98), the dose of which must be regulated by the age of the patient. For example, a boy of four would require only a quarter of the adult dose. Care should be taken to guard against excessive purging, as it is apt to prove very weakening. Mercury, or any

medicine containing that drug, should be avoided on account of the extreme susceptibility of people suffering from Bright's disease to its action. A very small dose of either blue pill or grey powder would suffice to produce profuse salivation, the occurrence of which would in all probability augment the severity of many of the symptoms, and possibly imperil the patient's chances of recovery. Digitalis or the resin of copaiba will be found useful in increasing the action of the kidneys and diminishing the dropsy. The indications for their employment will be subsequently given. (*See DIGITALIS and COPAIBA in the "Materia Medica."*) When the fever has abated and the dropsy is yielding, the more active measures may be discontinued, or pursued less energetically; but the efforts to restore or maintain the action of the skin should be persevered in. When convalescence is fairly established—and not till then—iron may be given with advantage. It is best to begin with small doses, and if it agrees to gradually increase them. A table-spoonful, or even half a table-spoonful, of the mixture (Pr. 1) every four hours will be enough to commence with, the full dose being worked up to in time. The action of the iron is to diminish the quantity of albumen in the urine.

When the patient has recovered from his attack, unusual care will have to be taken to guard against a relapse, to which there is always a tendency for a considerable time. The slightest exposure to cold or wet is often sufficient to cause the re-appearance of the albumen in the urine, with a repetition of all the old symptoms. When the patient is strong enough to be moved, and the urine has completely regained its normal character, a change of air to a warm sheltered locality is likely to prove highly beneficial, and to hasten the restoration of the impoverished blood.

Sometimes acute Bright's disease, instead of taking its departure and leaving the patient to recover from the effects of the attack, assumes a chronic form. In the great majority of cases, however, chronic Bright's disease is not a sequel of an acute attack. On the contrary, it begins slowly, insidiously, and almost imperceptibly. In very many cases it is not detected, its existence is not even suspected, until it has existed for months, and perhaps for years. At length the patient is awakened to a sense of his condition by the gradual failure of his strength, the increasing pallor and sallowness of his complexion, and his disinclination or even inability for exertion. Perhaps his suspicions are awakened by a little puffiness under the eyes, a slight swelling of the ankles at night, or by unusual frequency of passing water. Sometimes the disease creeps on stealthily in the wake of some pre-existing disorder, such as consumption, gout, constitutional syphilis, or chronic alcoholism. It may remain long concealed, and then suddenly reveal itself in the guise of an acute attack after exposure to cold or a fit of intoxication.

As we have already said, there are several different varieties of kidney disease included under the general term of Bright's, and it is only right we should state that when we speak of the symptoms of chronic Bright's disease we are speaking only in general terms, and that our statements, though in the main correct, may be found to be inapplicable to certain conditions. For example, as a rule, the urine contains albumen, but occasionally, even in confirmed and fatally-ending cases, only the minutest traces may be detected. Again, in the large majority of cases there is

dropsy, but occasionally not a sign of effusion can be discovered. Speaking generally, then, we should say the symptoms of chronic Bright's disease were debility, general impairment of the health, pallor of the face, pain in the loins, a frequent desire to pass water (particularly at night), albuminous urine, and dropsy. It should be distinctly understood that the presence of one or two of these symptoms would not justify us in assuming that the patient was suffering from Bright's. It is necessary for the establishment of the diagnosis that all, or at all events a large majority of them, should be present, the most important being dropsy and the existence of albumen in the urine. Delirium, convulsions, or coma, may sometimes occur in the course of Bright's disease, and these symptoms are of the very gravest importance, and require energetic treatment, the exact nature of which must depend on the condition of the patient.

The tenure of life of a person suffering from Bright's disease is undoubtedly somewhat precarious; but still, under favourable conditions and by the use of appropriate remedies, it may be prolonged for several years, the patient enjoying the pleasures and fulfilling the duties of existence very much as other people do. He will have to take the very greatest care of himself, and should always remember that any imprudent indulgence or exposure may quickly reduce him to a condition of the most imminent peril. As a matter of precaution against cold, he should be habitually clothed in flannel, and the activity of the skin should be encouraged by moderate walking or carriage exercise, and the occasional use of warm baths, with friction to the surface. The bowels should be opened once daily, and the diet should be light and nutritious. Milk nearly always agrees well, and should be taken habitually as an article of food. Two or three glasses of claret or hock daily, or a glass of beer, may be taken; but port and sherry and all kinds of spirits usually do harm, and should be strictly avoided. Iron in all forms proves beneficial, and should be taken at intervals. The tincture of steel, and the iron mixtures (Prs. 1 and 2), are excellent preparations; but the less astringent forms, such as Prs. 3, 4, and 6, may be resorted to occasionally by way of change. The best methods of dealing with dropsy will be subsequently discussed. (*See DROPSY.*)

BRONCHITIS.

Bronchitis may occur either as an acute or as a chronic disease. In the former case there is a sharp attack lasting a few days, or at the outside a week or two, whilst in the latter the complaint comes on year after year, and may last the best part of the winter. We will first consider the former variety.

Acute Bronchitis.—It may occur at any age, but is most commonly met with at the extremes of life. It is a frequent complaint amongst children, especially when they are cutting their first set of teeth, and old people are also very prone to suffer from it. It occurs both in men and women, the former, from their frequent exposures to wet and cold, being more subject to it than the latter. Any constitutional weakness or debility, arising from over-work, under-feeding, or neglect of the natural laws of health, greatly increases the liability to it. It frequently attacks those who are suffering from some chronic illness, such as gout, or diabetes, or Bright's disease. It is

a very common cause of death amongst rickety children. One attack of acute bronchitis favours the occurrence of another. The occupations which beget a liability to bronchitis are those which involve much exposure to wet and cold or sudden and marked changes of temperature. Employments which necessitate the inhalation of irritating particles floating in the air, such as cotton, steel, or charcoal, favour its occurrence. It naturally follows that the complaint is commoner amongst those who earn their bread by the sweat of the brow than with the rich and well-to-do. By far the largest number of cases is met with in the autumn and winter months. In summer it is comparatively rare, but from November to March or April it is very common. A sudden change in the weather, or a north-east or east wind, will be sure to bring with it bronchitis.

The immediate cause of bronchitis is, nine times out of ten, cold in some form or other. It acts in many ways—you may get hot running to the station to catch a train, and then sit in a draught from the window; or you may get hot dancing, and then go and cool yourself on the balcony; or you may get wet through, and neglect to change your clothes, or have no opportunity of so doing. Boots that let in the wet are a fruitful source of bronchitis. Many people get an attack from neglecting to wear flannels or a sufficient amount of warm clothing in the winter; sleeping in damp sheets has caused many a man's death from bronchitis. If you are subject to this complaint, you cannot be too particular in keeping out cold, although you must be careful not to keep out fresh air as well. Living in a close stuffy room soon weakens and makes any person more than ever susceptible to bronchitis. Children who drivel much, and whose garments covering the chest are constantly moist, are very likely to have bronchitis, so that the greatest care should be taken to keep them dry and clean. London fogs have the credit of being able to excite bronchitis, and with many people they undoubtedly produce great irritation of the bronchial tubes.

Bronchitis varies very much in its severity—sometimes it is little more than a common cold, at others it is so severe as to endanger the patient's life. Usually, to begin with, there is an irritating watery flow from the nose and eyes, and a feeling of fulness, heat, and soreness in these parts, with frequent attacks of sneezing. Very often there is also tension or fulness over the forehead. The throat feels sore and rough; and the patient has to keep on hawking to clear it. The voice is usually affected, and becomes hoarse and husky, so that it seems quite an effort to talk. The patient feels hot and feverish and out of sorts, but the temperature is usually but slightly elevated. The pulse is a little quicker than natural. Sometimes the limbs ache, and the patient seems to have a cold all over. There is loss of appetite, the tongue is furred, and the bowels are confined. There is a sense of heat or rawness in the chest, particularly beneath the upper part of the breast-bone. Sometimes there is a feeling of tickling which is peculiarly distressing. Cough soon sets in, and usually comes on in fits, either spontaneously or from a draught of cold air, or some other source of irritation. They increase in frequency and severity as the disease progresses, and they are usually worse on first lying down at night or getting up in the morning. There is usually no expectoration to begin with, but this soon sets in; at first it is very slight, and thin and watery in appearance, but after a time it gets thicker and more copious, and assumes a yellow colour. Sometimes it is so thick that the greatest difficulty is

experienced in getting rid of it. It sticks about the throat and the back of the mouth in the most distressing manner. Sometimes there are little streaks of blood in it, but that arises from the violence of the cough, and too much importance must not be attached to it. In favourable cases, and when energetic treatment is resorted to, the attack runs its course in from three to five days; but if the patient keeps about in the cold air, and takes no care of himself, it may last two or three weeks or even longer. There is usually no cause for anxiety; but in rickety children, and in those who are ill-nourished, or the subject of some constitutional disease, it often proves dangerous, and a fatal result may ensue. Sometimes the inflammation extends to the smaller bronchial tubes, and it then constitutes a very serious condition. This complication is more likely to occur in children than in adults. The onset of the bronchitis of the smaller tubes, or "capillary" bronchitis, as it is called, is often ushered in by well-marked rigors, severe headache, and sickness. Shortness of the breath is always a prominent symptom. It may be limited to quickened and somewhat laborious breathing, with a feeling of constriction and oppression across the chest, or the respirations may be extremely frequent and hurried, attended with violent efforts during inspiration and an urgent craving for air. Sometimes there is very great wheezing, which may be heard at some distance from the bed. The cough is almost continuous, but it also comes on in extremely violent, prolonged, and distressing paroxysms, during which the face becomes swollen, red or purple, and the veins swell and the arteries throb and throb again. There is a great deal of expectoration, which is coughed up with the greatest difficulty. There is an exception to this in the case of children, who do not expectorate, or rather swallow what they bring up.

In capillary bronchitis the constitutional symptoms are always very severe. The temperature may rise to 103° Fahr. or more, and the pulse is quick and full. The symptoms may gradually subside, but very often the lips and face, and even the hands and feet, become blue and cold and livid, as the result of the interference with the breathing, and then there is the greatest danger. Cold clammy sweats break out about the face and upper part of the body, and the exhaustion becomes extreme. It is a pitiable sight to see a little child in this condition. Often enough there is intense thirst and craving for water, and soon the mind begins to wander. The cough ceases, the patient is too weak to expectorate, or too ill to feel the necessity for so doing, and gradually the chest becomes blocked up with the phlegm, and then recovery is almost hopeless. Fortunately, capillary bronchitis occurs in only a small number of cases, and ordinarily the symptoms are far less serious.

In the milder forms of bronchitis the patient is usually convalescent in from nine to twelve days; but in severe cases of capillary bronchitis it may be three weeks before convalescence is established. There is evidence to show that bronchitis may lay the foundation of consumption.

Bronchitis, however slight, should never be neglected, because a little care and appropriate treatment may put an end to an attack which might otherwise become very serious, or even lead to a fatal result. A neglected cold may lay the foundation of an incurable disease. The treatment will vary somewhat, according to the severity of the attack; but if you err at all be sure that you err on the side of over-care. In the first place, it is absolutely necessary to stay in-doors.

It is very hard sometimes to have to do so, but there is no help for it. It is economy of time in the long-run, and the sooner you recognise that fact, the better your chances of a speedy recovery. Your room should be kept warm with a good fire if the weather is at all unfavourable. It is a good thing to try to get yourself into a profuse perspiration, and you had better do this on the first night of your illness. Have a good fire lighted in your bedroom a couple of hours or more before you go to bed. Have an extra supply of bed-clothing, and sleep between the blankets. Have your bed well warmed with the warming-pan, and take a couple of hot-water bottles to bed with you. These hot-water bottles should be placed in a flannel bag, and then you can put them against your legs or body without any fear of being burnt. The water should be as hot as possible, and the bottles should be rinsed out with hot water to warm them before being used. You should either have a hot bath just before getting into bed, or you should put your feet in hot water with some salt and mustard in it. Then you should put a good large hot mustard poultice over your chest, and keep it on as long as you can conveniently bear it. If you are a bachelor, and have a difficulty in getting any one to make a poultice for you, a couple of mustard-leaves will do almost equally well, and they are very much less trouble. Then you will want a night-cap—something hot and strong. It does not matter very much what form this takes, but the following is as good as any:—“Beat up an egg with a wine-glassful of sherry, and add it to a basin of hot gruel. Flavour with nutmeg, sugar, and lemon-peel.” If you cannot have gruel you can always get spirits and water, and a good stiff glass of gin, brandy, or rum and water, with plenty of sugar, is not to be sneezed at. Directly you have taken it, you should cover yourself up, and try to go to sleep. If you take a book and read, it will not do you half so much good, for you will have to keep your arms out to hold the book, and you will never get into a perspiration; so we say cover yourself up, and try to get to sleep. You will probably find it very hot, and be tempted to throw off some of the bed-clothes; but you are not to do that on any account, or you will assuredly defeat your object. Many people employ a kind of domestic Turkish bath when they wish to get into a perspiration, and nothing could be better, provided you have the apparatus and know how to use it. Others prefer the wet pack for this purpose, and we have nothing to say against it, for it often answers admirably. These methods may be used in conjunction with some of the other measures we have recommended. If taken quite at the beginning, aconite (Pr. 38) will often succeed better than anything. This mode of treatment will be discussed more fully when speaking of “cold.” In a severe case of bronchitis this simple treatment may fail to effect a cure, although it will be sure to do some good. If you are very bad you had better keep in bed for a day or two, but if not you may get up and go into your sitting-room. You will find it a good plan to keep a linseed-meal poultice constantly on your chest. It should be put on as hot as you can bear it, and as soon as it gets cold it should be changed for another. In the case of children it is best to have a jacket poultice—that is, a poultice big enough to go over both chest and back. Children should be kept in bed, for they are then more easily managed, and if it does nothing else it keeps them out of colds and draughts. For adults, inhalations are very useful. The simplest way of inhaling is to get a jugful of hot

water, put your mouth over it, and breathe the steam. You should put a towel round the top of the jug, and then you will have something to rest your face on, and you will not burn yourself. Sometimes, when the cough is very irritable, it is a good plan to put a couple of tea-spoonfuls of chloric ether in the water, or a little chloroform or ether. The air of the room may be kept moist by a kettle of water on the fire, and it may be advisable to put the chloroform or ether in this, so that it gradually becomes diffused.

Respecting diet. If there is much constitutional disturbance, or if the cough is very troublesome, solid food is inadmissible. You should have plenty of good strong beef tea, and, above all, plenty of milk. The milk may be taken cold or tepid, alone or mixed with water or soda-water, as taste dictates. When it forms the staple article of diet, three or four pints will have to be taken in the course of a day. It must be remembered that it is a food, and should be taken at regular intervals, say every two or three hours, and not at any time when you are thirsty or happen to fancy it. What about stimulants? It is difficult to lay down any positive rules on this point, as so much will depend on the actual condition of the patient. As a rule, you will do better without anything; when there is much prostration you will want three or four ounces of brandy in the twenty-four hours, or perhaps more. The brandy may be given in water or mixed with the milk.

In the early stage of bronchitis it is advisable to give a sedative and expectorant mixture such as the following:—

- R Sweet spirits of nitre, four drachms.
- Solution of acetate of ammonia, one ounce and a half.
- Ipecacuanha wine, two drachms.
- Paregoric, two drachms.
- Camphor julep, to make up eight ounces.
- Two table-spoonfuls to be taken every four hours.

When the more acute symptoms have passed away, and the disease shows a tendency to lapse into a chronic condition, more benefit will be derived from the carbonate of ammonia and senega mixture (Pr. 22) than from anything else. It is very nasty to take, but it does good, and that is the great thing. Throughout the whole course of the treatment the bowels should be kept moderately open, though diarrhoea should be avoided. When there is constipation, it is a good plan to lead off with a calomel pill (Pr. 61) at bed-time, followed by a saline draught in the morning. In capillary bronchitis stimulating treatment is absolutely necessary, and anything that tends to lower the system must be scrupulously avoided. A very good mixture is the effervescing ammonia mixture (Pr. 99) taken every four hours. Children may take the carbonate of ammonia alone, simply dissolved in water and not in a state of effervescence; the dose will vary from one to three grains every four hours according to age. Chlorate of potash lozenges are often serviceable. The application of mustard poultices or turpentine stupes to the chest must not be neglected. A few drops of chloroform, from ten to twenty poured on the hand and gently inhaled as it evaporates, will do much to relax spasm and facilitate expectoration, but it should never be carried to the extent of producing stupor. In the case of children tartar emetic in small doses often succeeds admirably. The following is a very useful formula:

—Take of tartar emetic one grain, water half a pint; dissolve. Of this a tea-spoonful is to be given every quarter of an hour for the first hour, and then hourly. Should it produce vomiting—as it often does—the dose must be reduced. It is especially useful when the child suffers from much wheezing and difficulty in breathing.

When bronchitis occurs in a gouty subject, some colchicum wine should be added to the cough medicine—say fifteen drops to each dose. During convalescence tonics, such as quinine (Pr. 9), iron (Pr. 1), acid and gentian (Pr. 15), and cod-liver oil, should be given. The clothing should be warm, and a good stout plaster should be worn over the front of the chest.

Those who are subject to attacks of bronchitis will have to take great care to avoid cold and wet in every shape and form. If possible, a change to a warm climate during the winter months should be enjoined. Cold sponging is useful, especially in the case of children.

We now pass on to the consideration of

Chronic Bronchitis.—This is usually the result of the acute affection, remaining sometimes even after a single attack, but in the majority of cases occurring after several repeated attacks. It is frightfully common, both in London and in the country. It is most frequently met with in those who are exposed to the inclemency of the season. One man, a hospital patient who was under our care, was a hawker, and, in addition to being out in all weathers, had to use his voice in crying his wares. Another was a street ballad-singer. A third was a mason's labourer, who, in addition to often getting wet through without any opportunity of changing his clothes, was not unfrequently engaged in demolishing old houses and walls, so that he had to inhale the irritating dust from the dry mortar. It is not confined to men, but may be almost as commonly met with in women. Laundresses are frequent sufferers. They work in hot damp rooms, without very much clothes on, and find it difficult to resist the temptation to go out in the yard or stand at the door to try and get cool. Women who keep open greengrocer's shops suffer in the same way. We might give many other examples of those in whom it occurs; but these will suffice to show that wet and cold are powerful predisposing causes. The complaint is met with most commonly in middle-aged people.

Now, as to the symptoms. In the first place the patient has probably been troubled with cough for many years. During the summer he is pretty well; but during the winter months—from October to March, or even May—he suffers greatly, sometimes without any intermission, occasionally getting a little better and then catching cold, or perhaps he may lose his cough for a few weeks, and then have a return of it from some slight exposure. The cough is very violent, frequent, and hacking, and it often comes on in fits. The paroxysms vary very much in their severity; they may last only a minute or two, or may continue almost without intermission for five, ten, or even twenty minutes. There may be only one or two attacks in the day, but sometimes the fit comes on two or three times in the course of an hour. The cough is generally brought on by exertion, and in bad cases so easily is it provoked that the patient is afraid to move or even speak. It is generally worse the first thing in the morning on getting out of bed.

The cough is usually accompanied by expectoration, which is often very abundant.

Sometimes it is transparent and watery, but quite as frequently it is thick and yellow. It varies greatly in quantity, and is usually difficult to expel. Occasionally, after a violent bout of coughing, it is tinged with blood; but there is never any real spitting of blood as there is in consumption.

Shortness of breath is always a very prominent and distressing symptom. So short is the breath that often the patient can walk only a few yards, especially in the cold air. He finds it very hard work to get up-stairs, and is usually quite unfitted for an active life. The breathing grows worse at night, so that he cannot sleep unless with the head propped up with several pillows. He is troubled, too, with bad fits of shortness of breath, which generally come on at night, last several hours, and constrain him to sit up in bed. Sometimes the breathing is difficult only on exertion, but it—like the cough—is in most cases made much worse by fogs, east winds, or damp.

Wasting is not a prominent symptom as it is in consumption, but still there is nearly always some loss of flesh in winter, which is gradually regained as summer returns. In bad cases the legs may swell. The sufferer from chronic bronchitis usually leads a most miserable existence; for nearly six months out of the twelve he is practically an invalid.

The best method of treating chronic bronchitis is by means of a spray. By a very simple apparatus a liquid can be "atomised," or converted into fine vapour. This process is probably familiar to most of our readers, for it is often used for the diffusion of scent. By inhaling the spray, the drug can be brought into immediate contact with the lungs, the part on which it is required to act. There are several kinds of spray apparatus sold by instrument makers, but "Richardson's" is the one

most commonly used for this purpose. It is very simple, and the accompanying figure requires but little explanation. The bottle is about two-thirds filled with the liquid it is desired to atomise, and on squeezing the india-rubber ball (A) several times in succession the spray issues from the nozzle (B). A small tap (C) is usually placed just behind the nozzle, and must of course be open. The second india-rubber ball (D) acts simply as

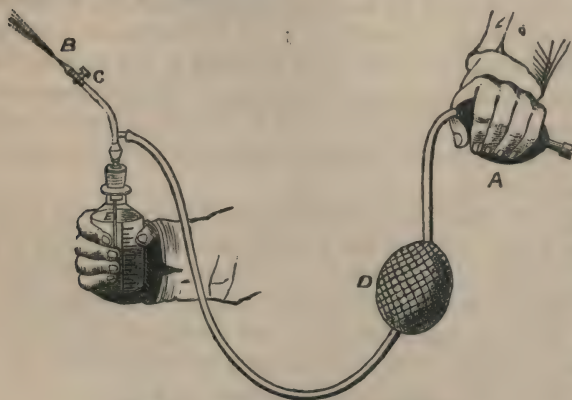


Fig. 1.—RICHARDSON'S SPRAY APPARATUS.

a reservoir, and serves to make the jet uniform. The end of the tube (E) is covered with linen, or has a little piece of sponge attached, to filter off any particles that may be floating about in the liquid and might block up the apparatus. The best substance for spraying in chronic bronchitis is ipecacuanha wine. It is too strong to be used alone, and it should be diluted with twice the quantity of water. It is as well to use tepid water, as the spray is then pleasanter to inhale. At first the nozzle

of the apparatus should be placed about a couple of feet from the patient, but it may be gradually brought nearer. If much fluid collect in the mouth, it should be spat out and not swallowed, or it may cause nausea or even vomiting. The duration of the inhalation will depend on the quantity of spray produced by each compression of the elastic ball, and to a certain extent on the susceptibility of the patient to the action of the drug. It is a good plan to begin with about twenty squeezes, and to gradually increase the number at each sitting. It is seldom necessary to give more than sixty or seventy squeezes at one time. After every three or four squeezes, especially at the commencement, it is advisable to pause for a while. It is necessary to see that the tongue is not arched up against the roof of the mouth, or it will hinder the passage of the spray into the lungs. The spray should be taken well into the chest, or it will not do much good. The best way is to take a good deep breath, so as to get as much of the vapour as possible. The inhalation should be used twice daily, night and morning, for the first week, then once a day for another week, and after that the intervals may be gradually extended as the patient gets better.

The benefit derived from the use of the ipecacuanha spray in chronic bronchitis is very great. The shortness of breath is the first symptom relieved. The night after the first spraying the patient usually has a fair night's rest, although, for months before, sleep may have been broken by shortness of breath and coughing. The difficulty of breathing on exertion also quickly abates, and in a few days the patient can get about with comparatively little difficulty. A marked improvement takes place after each inhalation, and, unless the patient is unfortunate enough to catch a fresh cold, he progresses steadily. Patients have told us that in a week's time they could walk two miles with less distress of breathing than they could have walked a hundred yards before the spray was employed. In some instances two or three days elapse before any noticeable improvement takes place—this comparatively slow effect being sometimes due to awkward inhalation, so that but little ipecacuanha passes into the bronchial tubes. The effect on the cough and expectoration is also very marked, these both greatly decreasing in a few days, though the improvement in these respects is rather slower than in the case of the breathing. Sometimes for the first few days the expectoration is rather increased, but it speedily alters in character, so that it is expelled much more readily, and thus the cough becomes easier even before the expectoration diminishes. The patient is soon enabled to sleep at night with his head lower, and in a week or ten days, and sometimes earlier, can do with only one pillow—an improvement which occurs in spite of fogs, damp, or east winds; even, indeed, whilst the weather gets daily worse, and when the patient is exposed to it the chief part of the day.

Sometimes, just at first, an inhalation may excite a fit of coughing, which generally soon subsides; but should it continue, a weaker solution should be used. The patient soon becomes accustomed to it, and inhales the spray freely into the lungs. At first he often inhales the spray less adroitly than he learns to do afterwards, and he is apt to arch his tongue so that it touches the palate, and consequently less enters the chest than when the tongue is depressed. This difficulty may usually be overcome by holding the nose whilst the spraying is in progress.

The spray may produce dryness or roughness of the throat, with a raw sore sensation behind the breast-bone; but this is temporary, and soon passes off. Sometimes the spray produces a certain amount of discomfort; but, on the other hand, many people who are hoarse recover the voice after the first inhalation.

Sometimes Siegle's spray apparatus succeeds even better than Richardson's. The great advantage of this form is that it works by steam, and the trouble of squeezing



Fig. 2.—SIEGLE'S SPRAY APPARATUS.

the ball is avoided. For self-administration it is very convenient. The boiler is filled with hot water through the opening at A, and then closed by the cork; the ipecacuanha wine, diluted with water, is put in the bottle at B, the lamp is lighted, and in a minute or two the spray is given off. Many people have a great objection to the smell of the spirit used in the lamp, but this can be removed by adding to it a few drops of scent. There is no danger of the boiler bursting, as should the pressure become too great, the cork would be blown out. After each inhalation a little clean water should be sprayed through the apparatus to clean it, and the boiler should always be emptied before it is put away. The quantity to be used with the Siegle is at each sitting from one to two of the little bottlefuls of the ipecacuanha wine and water—one part of the former to two of the latter.

Although we have assigned to the ipecacuanha spray so prominent a place in the treatment of chronic bronchitis, it must not be supposed that it is the only remedy for that distressing complaint. Sometimes it may be inconvenient or impossible to use the spray; then a mixture must be given. This often happens in the case of poor people who have not the means to purchase the spray apparatus. Very frequently carbonate of ammonia succeeds admirably, and it may be conveniently given in combination with senega, as in Pr. 22. This mixture is especially indicated in chronic bronchitis occurring in old people. When the secretion is thick and abundant, its efficacy may be increased by the addition of fifteen grains of chloride of ammonia to each dose, or Pr. 36 may be used. Sometimes a solution of chloride of ammonia is used for spraying, but it is decidedly inferior to the ipecacuanha. An old-fashioned though very serviceable remedy is Friar's balsam. It should be taken three times a day, in half tea-spoonful doses, either beaten up with the yolk of an egg or suspended in mucilage. It is very useful in old-standing cases. A tea-spoonful may be put in a jug of boiling water and the steam inhaled. Nearly all resinous bodies seem to be useful in chronic bronchitis. Ammoniacum often does good. There is an ammoniac mixture in the British Pharmacopœia, and the dose of this is from half an ounce to an ounce every four hours. When in long-standing cases there is a great deal of expectoration, the compound mixture of iron, or Griffith's mixture, as it used to be called, may be used with advantage. One or two table-spoonfuls should be taken every four hours. It is supposed to owe much of its efficacy to the myrrh that it contains. Tar often does a

great deal of good in this complaint, and on the Continent it is a very great favourite. There is not the slightest objection to using it in conjunction with the ipecacuanha spray. Most chemists keep tar-water, and this is not very disagreeable to take. Tar pills (Pr. 70) often succeed admirably. Creasote is another capital remedy; a linctus may be made by adding four drops of creasote and four drachms of glycerine to four ounces of water (Pr. 58). Two or three tea-spoonfuls of this may be taken several times a day. It speedily eases the cough, but has less influence on the breathing. The creasote and opium mixture (Pr. 23) is also useful. The occasional application of iodine to the chest, and especially to the back, does good by diminishing the cough and lessening expectoration.

In the great majority of cases of chronic bronchitis a general tonic plan of treatment is necessary. In addition to the remedies directed to the relief of the cough, a course of quinine (Pr. 9), or of acid and gentian (Pr. 15), often proves of service. The quinine may sometimes be given in combination with iron (Pr. 11). The oxide of zinc pills (Pr. 66) are also useful in some cases. When there is a great deal of expectoration, resulting in loss of flesh and strength, cod-liver oil is of essential service. Pancreatic emulsion is a useful remedy in chronic bronchitis, particularly when given in conjunction with cod-liver oil. A table-spoonful of cod-liver oil should be taken directly after breakfast, and a tea-spoonful of the emulsion in a tumbler of milk, with a table-spoonful of brandy, two hours after dinner. If cod-liver oil disagrees, the pancreatic emulsion may be given two hours after breakfast, and again two hours after dinner. A dash of rum may be added to the milk instead of the brandy if preferred, and a small plain biscuit should be taken after the dose.

The general management of the health also requires careful attention. It is very important to avoid sudden changes of temperature—as in going from a warm room to one without a fire. The sufferer from chronic bronchitis should always wear a respirator out-doors if it is at all damp or foggy. On really bad days it is almost impossible to go out. Different forms of bronchitis require different climates, but in every case it is desirable to ensure a tolerably warm temperature, without sudden changes, a moderately high altitude, and protection from cold winds. When there is cough without much expectoration, a soft relaxing atmosphere with moderately high temperature is recommended. When the expectoration is abundant, the patient is advised to resort to a dry, hot, and more or less stimulating climate. In this country people with chronic bronchitis usually go to Torquay, Penzance, Bournemouth, Grange, Clifton, or Tunbridge Wells. Abroad, the chief resorts are Mentone, San Remo, Pisa, Rome, Cannes, Algiers, and Corfu. Plenty of warm clothing will have to be worn, with flannel next to the skin. A warm bath or Turkish bath should be employed from time to time. When the weather permits, moderate exercise is advisable. The diet should be at all times nutritious, especially if there is much emaciation. The bowels will have to be regulated if they fail to act naturally.

BRONZED SKIN, OR ADDISON'S DISEASE.

This is a comparatively rare disease. The most prominent characteristics are marked bloodlessness, coming on without any apparent cause, excessive and pro-

gressive weakness, a feeble and perhaps rapid pulse, faintness on the least exertion, pain in the region of the stomach shooting through to between the shoulders, a pearly aspect of the whites of the eyes, loss of appetite, sickness, flabbiness of the limbs, or perhaps loss of flesh, and a brownish or dingy discoloration of the whole surface of the body. The browning, or bronzing, is not diffused uniformly over the surface of the skin, nor have the darker parts any definite outline. It occupies principally the front of the body and of the limbs, and is usually most marked about the face, neck, arms, armpits, and around the navel. Spots that have been blistered become very dark, as do sometimes the rings made by the pressure of the garters. The colour varies considerably in intensity. Usually the skin assumes a dingy or smoky hue, somewhat like the stain produced by the juice of walnuts; but in one instance we are told that the patient was so generally and deeply darkened that but for his features he might have been mistaken for a mulatto.

This is often a serious complaint, and no time should be lost in consulting a doctor. You must be careful not to mistake a slight attack of jaundice for Addison's disease. In jaundice, the whites of the eyes have a yellow tinge, and the urine is distinctly light-coloured. Moreover, you must not confound it with a skin disease called chloasma, which forms light-brown spots on the surface of the body. The margins of these spots are well marked, whilst in Addison's disease the bronzing has no definite outline.

We may take this opportunity of mentioning that in women a little darkening of the skin occasionally occurs as a temporary condition, and is of not the slightest importance. Some women always get a little darker at the menstrual periods or when in the family way. The case is recorded of a lady who began to get brown as soon as she became pregnant, and before the termination was as black as a negress. After delivery the colour gradually disappeared. Fortunately, such cases are rare, although a brown stain may often be noticed on the forehead in women who are pregnant, or who are suffering from some derangement of the womb. Every one must have noticed the dark rims under the eyes which many people present when they are a little out of health. Young ladies in their first season often exhibit this symptom, and it is not uncommonly a source of anxiety to mothers. It is, however, easily got rid of. A gentle galvanic current passed through the part from a battery will in most cases remove it in a few minutes.

BRUISES.

A bruise, or contusion, is an injury inflicted by some blunt instrument without breaking the skin. Bruises vary much in severity, but it is only in the more serious forms that it is necessary to call in a doctor. Ordinarily, a little simple treatment will soon set things right again. Tincture of arnica is one of the very best remedies, and its use is indicated in all injuries arising from mechanical violence. It is not to be used undiluted, but a lotion should be made by mixing one part of the tincture with ten of warm water. It should be applied immediately by saturating a piece of lint with it, and then covering it with a rather larger piece of oiled silk to prevent evaporation. An infusion or decoction of arnica, when it can be obtained, succeeds even better than the tincture. In addition to the external application, tincture of

arnica should be taken internally. A tea-spoonful of the tincture should be put in an eight-ounce bottle of water, and of this a tea-spoonful should be given every two or three hours. Arnica succeeds admirably in allaying the pain caused by getting the finger jammed in the door. The sooner it is used after the receipt of the injury, the more likely is it to do good. There is never any advantage in waiting till the discoloration of the skin makes its appearance. The part should be kept raised, and should of course not be used. The arnica lotion, if employed at once, will do much to ward off the occurrence of a black eye. For internal bruises, arnica is a most excellent remedy, speedily neutralising the ill-effects of blows, falls, and other mechanical injuries. In cases of shake, concussion, and shock, resulting from railway accidents, it is also very serviceable.

In the case of people subject to erysipelas, *Hamamelis Virginica* may be used instead of arnica, though usually it proves less efficacious. A tea-spoonful of the tincture of hamamelis should be mixed with eight ounces of water, and of this three tea-spoonfuls should be taken every two or three hours. A hamamelis lotion may be made by adding two tea-spoonfuls of the tincture to half a pint of water. It is to be employed in the same way as the arnica lotion. This hamamelis lotion will do much in removing the discoloration of a black eye.

When after a bruise the pain and tenderness have subsided, it is a good plan to apply a bandage to restore tone to the injured tissues. It often proves beneficial to use a cold douche, followed by warm friction.

BUNIONS.

Bunions are nearly always the result of badly-fitting boots. Rightly to understand their mode of production, it is necessary to revert for a moment to the natural form of the foot, uninfluenced by the distortion produced by modern boots and shoes. If you look at the foot of a London Arab, or any little shoeless urchin you may come across, you will be surprised to find what a beautiful structure it is. You will see that the big toe is in a straight line with the inner side of the foot. There is a distinct interval between the big toe and the next, so that they do not touch at all. There is a smaller though very appreciable interval between the second and third toes, and you will notice that when the weight of the body is thrown on the foot, the third and fourth toes are not in contact. Now compare this with the foot of any one who has been accustomed to wear tight-fitting boots all his life, and you will see what a difference there is. All the toes are screwed up together like a bunch of carrots, the second or third toe is sticking up over the others, whilst the little toe is pushed under, quite out of sight; the big toe is no longer in a straight line with the inner margin of the foot, but forms a distinct angle with it. We have seen people's feet that have really been quite painful to look at, from the distortion they have undergone. We are fond of laughing at the Chinese for some of their customs, but we should do well to look at home before becoming too critical. It is a curious circumstance that we, wise people as we think ourselves, should consent to distort our feet and make ourselves miserable with corns and bunions just to please other people; but we do. We should never think of wearing tight uncomfortable boots, if it were not for "the

look of the thing." The shape of modern boots is purely conventional, and is not at all adapted to the natural form of the foot. Boots to fit properly—we mean really properly—must have square toes, and should not be made to taper off to a point. There is no reason why a comfortable boot should be ugly, and some of the prettiest boots we have seen have been constructed with a due regard to the natural shape of the foot.

In addition to the direct effect produced by the pressure of misshapen boots, the material of which they are made often exercises a predisposing influence on the formation of bunions. Patent leather, or any material like it which prevents the evaporation of the perspiration, must exert an injurious effect.

There undoubtedly exists in many persons an hereditary tendency to the formation of bunions, which nothing but the greatest attention to the shape and construction of their boots will overcome. Though generally situated over the first joint of the great toe, bunions are not unfrequently developed over bony prominences, in other parts where the natural conformation of the foot fails to correspond with the artificial and arbitrary shape of the shoe.

In its early formation a bunion generally attracts attention as a painful and tender spot, on some point exposed to pressure and irritation by distortion of the toes. By-and-by the part enlarges in consequence of an effusion of fluid, the design of which is obviously to protect the part from undue pressure. The irritation continuing, inflammation is set up, causing progressive enlargement, with possibly the formation of matter. Sometimes this matter is discharged, leaving a nasty ulcer which is very difficult to heal.

It is only in the early stage of a bunion that treatment is likely to effect a complete cure, though palliative measures are practicable at all times. The tender spot preceding the formation of a bunion should be covered at night with wet lint and oiled silk, whilst care should be taken to see that the boots are wide in the sole and not sloped off on the inner side towards the middle line of the foot. Should the part be very tender, it may be covered with soap plaster spread on kid or wash-leather. When the formation of fluid has already occurred, steps should be taken, in addition to the above precaution, to procure its absorption by painting the part with tincture of iodine. As soon as one coat has cleared off, another should be applied. Sometimes it is advantageous to use the iodine liniment, which is stronger than the tincture, but it will have to be applied less frequently, and with greater caution. If there be inflammation of the part, a hot foot-bath, followed by linseed-meal poultices or water-dressing, will prove of service. Benefit is sometimes experienced from an arnica lotion made by mixing two drachms of tincture of arnica with eight ounces of water. It should be applied on lint, covered with oiled silk, and its use should be continued for three or four days. Tincture of *Veratrum Viride*, painted on inflamed bunions, often gives speedy and lasting relief.

It is the custom with many people who suffer from bunions to wear boots made to fit accurately their distorted feet. The wearing of a shoe so constructed as to aid in the restoration of the toes to the natural position is recommended; except in cases of very extreme distortion of the joints, the sole should be cut exactly as if the toes were in their natural position.

CANCER.

Our remarks on this subject must necessarily be brief, not because cancer is a disease of little importance, but because, on the contrary, it is of so serious a nature that it is unsuited for domestic treatment. It may, however, be of interest to consider the circumstances which conduce to the development of this disease. As we all know, cancer, or carcinoma, as it is technically called, attacks many different parts of the body. At present, however, we shall not speak of cancer of any particular organ, but of cancer in general, referring to the local manifestations only incidentally. There is scarcely an organ or tissue in the body which is not liable to be attacked by this terrible foe: it may be found in the brain, the eye, the lips and face, the lungs, the stomach, the bowels, the liver, the kidneys, the breast, the womb, the bones, and some other parts. The regions most frequently attacked are the womb, the stomach, and the female breast.

There is a very prevalent opinion that cancer runs in families, and undoubtedly many cases occur which favour this view. Thus the first Napoleon died of cancer of the stomach, and so did his father and sister. When, however, the evidence as to cancer being hereditary is investigated on a large scale, there is found to be very little in it. Out of 278 cases of cancer, it was found that in one instance only had the patient's father or mother died of that disease. Many people seem to imagine that because one of their parents died from cancer, they are doomed to suffer the same fate—an opinion for which there is not the slightest foundation.

Cancer is a disease which is common to all ranks of society, from the highest to the lowest. Not only are the richest and poorest alike subject to it, but so are the worst and best fed, those who are living under the most favourable atmospheric conditions and those who are immured in the worst, those who are cleanly and those who have a wholesome dread of soap and water, those of all temperaments and all occupations, those who are apparently healthy, and those who are never well. It may attack people of any age, from the baby at the breast to the nonagenarian. Speaking generally, however, cancer may be said to be a disease of middle and advanced life, for it comparatively rarely visits those who have any claim to be considered young. Cancer is more common in women than in men, and it is said to occur more frequently in those who are unmarried than in those who have taken upon themselves the cares and pleasures of matrimony.

Depressing mental emotions are said to give rise to, or at all events favour the production of, cancer. It would seem that the body weakened and its vitality lowered by worry of mind falls an easy prey to the invading disease. An eminent surgeon recording his experience on this point says:—"I have seen so many cases of cancer, more particularly of the abdominal organs, in individuals who had suffered from grief, anxiety, harass of mind, for years before the development of the malignant disease, that although the doctrine is incapable of proof, I cannot but look upon it as probable that the cancer was the result of the antecedent, long-continued disquietude." The moral is "don't worry."

Curiously enough, cancer appears to occur with very varying degrees of frequency in different parts of the world. It is certainly more common in Europe than in any

other continent. In some parts of North America and China it is also frequent, whilst in South America, in Africa (except Egypt), and the greater part of Asia it is not of frequent occurrence. In England, cancer is least common in the north-western and western parts of the kingdom, including Wales, but throughout the most elevated southern and middle districts it is common. It has been pointed out that the distribution of cancer follows the course of the great rivers after their formation, when they are passing through the low-lying valley lands liable to overflowing and its attendant dangers. There is no evidence to show that cancer is influenced by the density of the population, or that it is proportionately of more common occurrence in large towns than in country districts. There is reason for believing that its prevalence increases with the advance of civilisation.

It is sometimes said that cancer may arise from a blow or kick ; but this is very doubtful. At all events, in such cases the patient must have been very strongly predisposed to cancer. Many women are apt to attribute the origin of the complaint to a squeeze on the breast, and to reproach themselves on this score. We must admit that we have some difficulty in believing that such a trivial cause could be in any way operative ; if it were, the disease would undoubtedly be more common.

As a rule, there are no precursory symptoms of cancer, and in the majority of cases the first sign is the detection of some growth or tumour. After a time it is noticed that the patient is getting thinner, and day by day weaker and more deficient in muscular power. The appetite is generally bad, and often the patient takes scarcely anything to eat. The skin becomes loose, and acquires a peculiar lemon or straw colour, which can be distinguished from the yellowness of jaundice by not affecting the whites of the eyes. There is often great depression of the spirits, but the intellect remains unimpaired.

And do these symptoms indicate the presence of cancer ? Certainly not, for the majority of them are common to, we might almost say, dozens of complaints. We are seldom warranted in deciding that a case is cancer unless we can detect the presence of a tumour. And if, then, a tumour is found, is it cancer ? Again no ; decidedly not. There are many swellings and tumours which are of the most innocent description, and never do anybody harm. It is most likely that that lump you have been worrying yourself about, and thinking was a cancer, is of not the slightest importance, and will disappear in time. There are "fatty tumours," lumps of fat, and all kinds of things that anybody who is not a doctor might mistake for a coming cancer. But you have been losing flesh, have you ? Well, and what then ? You cannot expect to be the same weight all your life. Your weight fluctuates more or less just as everything else does. Sometimes you gain a little, and sometimes you lose. We will be bound that if you got yourself weighed you would find that you had not lost a pound in a month. But your appetite has fallen off ? Well, we do not wonder at it. The fact is that a change of air would do you more good than anything. A few days at Brighton or Ramsgate would soon set you up again ; even Saturday to Monday is better than nothing. But you are looking yellow ? Dare say you are, yellow as a guinea. It is just what we should expect when you are cooped up in-doors all day. But if you really feel anxious about the swelling, go and see a doctor by all means, and get him to examine it. Tell him

just what you think about it, and in all probability he will be able to set your mind at rest on the subject.

As to the treatment of cancer, that is a subject on which it is impossible for us to speak in detail. It would not benefit you in the least if we were to enter into a discussion as to what cases are benefited by an operation and what are not. This is often one of the most difficult points which a surgeon has to decide, and he can arrive at a correct conclusion only by an attentive consideration of all the circumstances of the case. We may mention, however, that very frequently the pain may be temporarily relieved by the use of opium or morphia. Sometimes ten grains of chloral, or Pr. 37, taken three times a day, will succeed better than opium. The pain of cancer when the skin is broken so as to leave a painful irritable sore may be relieved by playing vapour of chloroform on the raw surface, the immunity from pain often lasting several hours. Of course it is understood that it is the vapour of the chloroform which is to come in contact with the sore, and not the liquid itself. A starch poultice, from its soothing, unirritating properties, often relieves the pain when applied to an open cancer. When the disease attacks the bowels or the adjacent organs, the pain may be mitigated by the use of large injections of warm water, which also often prove successful in relieving the distressing straining and desire to evacuate the bowels, of such frequent occurrence under these circumstances.

The tincture of *Hydrastis Canadensis*, or golden seal, has obtained a great reputation in the treatment of some cases of cancer. It has been especially extolled in the treatment of cancerous tumours of the breast. It should not only be given internally, but should be used as a local application. A lotion may be made by mixing a drachm of the tincture with half an ounce of glycerine, and this should be applied or rubbed in in small quantities several times a day. A still better and more efficacious lotion is made by dissolving ten grains of chloride of hydrastia (hydrastia being the active principle of hydrastis) in eight ounces of water.

In many cases the most satisfactory results have followed the long-continued administration of small doses of arsenic, as, for example, a tea-spoonful of the arsenic mixture (Pr. 40) every four hours. Its internal administration should be combined with the local application, where possible, of a lotion made by adding six tea-spoonfuls of the mixture (Pr. 40) to half a pint of water. Of late Chian turpentine has been introduced as a remedy for cancer, and some most wonderful cures are reported. It is made into pills according to Pr. 101. Two pills are to be taken every four hours, and the treatment must be continued for many weeks.

CANCER OF THE STOMACH.

We purpose entering very briefly into the consideration of this subject, not because it is of little importance or of infrequent occurrence, but because the patient must of necessity at some time or other in its progress come under the care of a medical man, and we feel assured that the earlier he seeks professional advice, the better it will be for his welfare.

In the first place we must consider the predisposing causes of cancer of the

stomach. There is no doubt that it may be hereditary. In support of this statement the case is often quoted of the first Napoleon, who died of cancer of the stomach, as did his father and sister. It is a great mistake, however, for people who may have lost one or more near relatives from cancer to suppose that they are doomed to die of the same horrible disorder. It is nothing of the kind; and it is the opinion of many of the most eminent physicians and surgeons of the day that cancer of the stomach is far less likely than any other form of cancer to be hereditary. Moreover, unless a *post-mortem* examination was made, it is very difficult to assert positively that the disease was actually cancer. There are several morbid growths which in the symptoms they produce are very like cancer, but a tendency to which it cannot be supposed for one moment is capable of transmission. We recently saw in a hospital an old man who was supposed by everybody to be suffering from cancer of the stomach. He died; and at the *post-mortem* examination we found that there was no cancer at all, and that death had resulted from a large ulcer. The poor fellow had no friends, but we can readily imagine that in many cases a knowledge of the fact that the sufferer had died of a non-hereditary complaint would be a great comfort to the survivors. We would earnestly impress upon you the necessity of not attaching too much importance to the existence of a cancerous taint in your family.

Cancer of the stomach occurs with about equal frequency in men and women. It is very rare under the age of thirty, and the greatest predisposition to the disease is met with in people between the ages of sixty and seventy. Among the exciting causes of cancer of the stomach are usually mentioned errors of diet, brandy-drinking, and mental anxiety; but their influence is, to say the least of it, very problematic.

Patients suffering from cancer of the stomach often present a peculiar yellow colour, they become languid and weak, they emaciate, and exhibit other signs of profound constitutional disturbance. It must not be forgotten that these symptoms are common to many diseases, and that to the unpractised eye the pallor of anæmia is readily mistaken for the cachexia of cancer. Pain at the pit of the stomach is absent in very few cases. It is usually a very marked symptom, and is often lancinating in character, but there is nothing peculiar about it which would serve to distinguish it from the pain caused by indigestion or any other disorder. Loss of appetite and vomiting are of constant occurrence in cancer as in many other diseases of the stomach, and the vomited matter is frequently mixed with blood. None of these symptoms will serve to indicate positively the existence of cancer; in fact, it is the rule with most medical men not to diagnose the existence of cancer of the stomach unless they can detect the presence of a tumour in the abdomen.

As we have already pointed out, it is often a most difficult matter to distinguish between ulcer of the stomach and cancer. If the patient is under thirty years of age, if he is fairly healthy in aspect, if he is not wasted much after an illness of some duration, if there are marked variations in his condition, he is probably not suffering from cancer. Copious bleeding from the stomach is in favour of ulcer *versus* cancer.

Cancer of the stomach is so essentially a disease which must come under the care

of a medical man, that it would be superfluous to enter into the subject of treatment. In any case in which cancer is suspected, the sooner the opinion of the doctor is taken the better.

CARBUNCLE.

A carbuncle is a far more serious matter than a boil. A boil is no joke, but still it is a very trivial matter compared to a carbuncle. A carbuncle is a large flat circumscribed, very hard, and very painful tumour, of a purplish-red colour, and attended with a sensation of burning heat. It may reach three or four inches in diameter, or even more. It usually gives rise to the formation of a deep slough, and the total destruction of the skin which is involved. It is evident that boils and carbuncles are closely allied, for they are usually prevalent at the same time. Moreover, occasionally a carbuncle results from the confluence of two or three boils which have arisen near each other. By many doctors a carbuncle is considered to be nothing more than a large boil, and there is undoubtedly much to favour this view. A carbuncle may be distinguished from an ordinary boil by being less clearly defined in its margin, by being less conical in the centre, and for its size, less prominent on the surface. Moreover, it perforates the skin by several apertures, and extends more deeply than a boil; the redness of the skin is of a more livid hue, the pain is more severe, and it is accompanied by more constitutional disturbance.

Carbuncle is often a very serious complaint. At first sight one would hardly feel inclined to credit the fact that every year in England alone between two and three hundred people die of carbuncle.

Carbuncles occur more than twice as often in men as in women. They are met with chiefly in advanced life, in corpulent males, and in people who have lived freely. A carbuncle in a person under twenty is a rarity. The disease attacks all ranks of life, but the upper classes are more liable to it than the ill-fed and over-worked poor. Carbuncles are in the majority of cases of constitutional origin, and frequently the only cause that can be assigned is a condition, on the one hand, of general debility, or, on the other, of plethora. Some people exhibit a remarkable predisposition to this form of disease. By many it is supposed that carbuncles arise from eating the flesh of animals who have died of pleuro-pneumonia.

Carbuncles may appear in almost any situation, but they most commonly affect the hinder parts of the body, and more especially the nape of the neck, the shoulders, and the buttocks. A carbuncle is usually most dangerous when it appears on the scalp.

A carbuncle usually begins as a painful inflammatory swelling, hard to the touch, red in colour, obtusely conical in shape, and ill-defined in its boundaries. It gradually increases in extent and hardness, and after a few days the colour becomes darker, the more prominent parts being of a livid red. Presently a little blister forms, and when this bursts, the skin beneath is seen to be perforated by several little apertures, from which a little thin matter oozes. After a time these separate holes merge into one large ragged-looking opening, at the bottom of which will be seen a large slimy-looking slough. When this is exposed, the pain usually somewhat abates, thick matter is formed, and the slough is slowly and painfully

separated, leaving a cavity of very irregular shape, having usually deeply undermined and jagged edges. After a time this hole is filled up, but it often leaves a permanent scar. The local mischief is usually productive of a considerable amount of fever and constitutional disturbance.

We must now consider the treatment of carbuncles. Sulphide of calcium is every bit as useful in carbuncles as it is in boils. The mode of administration should be that indicated when speaking of the latter complaint. (*See BOILS*, p. 144.) Or the Harrogate waters may be taken. The belladonna plaster and the liniment with poulticing should be employed as already directed. When there is severe inflammation and high fever, as indicated by the thermometer, it may be necessary to give aconite. A tea-spoonful of the mixture (*Pr.* 38) should be given every ten minutes for the first hour, and subsequently hourly. It may, if necessary, be alternated with the sulphide of calcium: a dose of one one hour, and a dose of the other the next, and so on. The medicines are never to be mixed, and must not be given together. In the majority of cases we should prefer giving the sulphide of calcium only. When there is great prostration, the arsenic mixture (*Pr.* 40) may prove useful; but usually it will be found to be inferior to the sulphide of calcium. The external application of an extract of opium of the consistence of treacle is sometimes used to ease the pain. It is to be thickly smeared three or four times a day over and around the swelling. The extension of the carbuncle may sometimes be limited by tightly strapping it with strips of adhesive plaster applied concentrically from the border, inwards, around, and over the swelling. The plaster should be removed daily, and any discharge that may have exuded sponged away with warm water. The enlargement of a carbuncle may be considerably curtailed by early strapping.

It will be gathered from what we have said that in carbuncle the attendance of a doctor is desirable, and this is especially the case when the complaint makes its appearance on any part of the face or scalp.

Respecting the general treatment, it may be said that it should be essentially of a sustaining character. The food should be given in as digestible a form as possible. The patient should have plenty of strong beef tea, chicken or mutton broth, eggs, milk, and other articles of diet of a similar nature. In the majority of cases stimulants are required. Brandy and egg may be given with advantage, or brandy or sherry and milk.

CATALEPSY.

Catalepsy is one of the strangest diseases possible. It is of rare occurrence, and some very sceptical people have even gone so far as to deny its existence. That is all nonsense, for catalepsy is just as much a reality as gout or bronchitis.

A fit of catalepsy—for it is a paroxysmal disease—consists essentially in the sudden suspension of thought, feeling, and the power of moving. The patient remains in any position in which she—we say she, for it occurs mostly in women—happens to be at the moment of the seizure, and will moreover retain any posture in which she may be placed during the continuance of the fit. For example, you may stretch out the arms to their full length, and there they remain stretched out

without showing the slightest tendency to drop. It does not matter how absurd or inconvenient or apparently fatiguing the position may be, it is maintained until altered by some one, or until the fit is over. In these attacks there are no convulsions, but on the contrary the patient remains perfectly immobile. She is just like a waxen figure, or an inanimate statue, or a frozen corpse.

The following description of a case is nearly a hundred years old, but it presents a more graphic picture of the disease than any modern account with which we are acquainted:—

“In the latter end of last year (1781), I was desired to visit a young lady who for nine months had been afflicted with that singular disorder termed catalepsy. Although she was prepared for my visit, she was seized with the disorder as soon as my arrival was announced. She was employed in netting, and was passing the needle through the mesh, in which position she immediately became rigid, exhibiting in a very pleasing form a figure of death-like sleep, beyond the power of art to imitate or the imagination to conceive. Her forehead was serene, her features perfectly composed. The paleness of her colour, her breathing at a distance being also scarce perceptible, operated in rendering the similitude to marble more exact and striking. The positions of her fingers, hands, and arms were altered with difficulty, but they preserved every form of flexure they acquired; nor were the muscles of the neck exempted from this law, her head maintaining every situation in which the hand could place it, as firmly as her limbs. About half an hour after my arrival, the rigidity of her limbs and statue-like appearance being yet unaltered, she sang three plaintive songs in a tone of voice so elegantly expressive, and with such affecting modulation, as evidently pointed out how much the most powerful passion of the mind was concerned in the production of her disorder, as indeed her history confirmed. In a few minutes afterwards she sighed deeply, and the spasm in her limbs was immediately relaxed. She complained that she could not open her eyes, her hands grew cold, a general tremor followed; but in a few seconds, recovering entirely her recollection and powers of motion, she entered into a detail of her symptoms and a history of her complaint.” In this case we are told the fits occurred once or twice a day, and sometimes more frequently, but they never came on at night. They frequently occurred without warning, but were sometimes ushered in by a fluttering at the pit of the stomach, or by a fixed pain at the top of the head. The onset was usually very sudden, and on one occasion she was seized whilst carrying a cup of tea to her mouth, and remained rigidly fixed in that position.

The most common cause of catalepsy is mental emotion. A young girl who was in the hospital recovering from typhoid fever was greatly frightened one night by the occurrence of a fire in an adjacent building. She was awoke by the blaze flashing in at the windows, and at once exclaimed that the day of judgment had come. She remained in an excited state all night, and the next morning grew gradually stiff like a corpse, whispering before she became insensible that she was dead. If her arm were raised, it remained extended in the position in which it was placed for several minutes, and then slowly fell. This strange condition gradually passed off in the course of the morning, and there was no return of it.

The subjects of catalepsy are usually young women, but it is occasionally met with in men. In one case the patient was a man sixty years of age. He was engaged in plastering, when suddenly he became insensible, and his limbs and body were rigidly fixed in the position in which he was attacked. The fit lasted twenty-two hours, and then recovery gradually took place. It is supposed to have been induced by much mental suffering, owing to the sudden death of his wife.

Cataleptic fits vary very much, not only in their frequency, but in their duration. Sometimes they are very short indeed, lasting only a few minutes. In one case, that of a young lady, they would sometimes come on when she was reading aloud. She would stop suddenly in the middle of a sentence, and a peculiar stiffness of the whole body would seize her, fixing the limbs immovably for several minutes. Then it would pass off, and the reading would be continued at the very word at which it had been interrupted, the patient being quite unconscious that anything had happened. But sometimes fits such as these may last for days and days together, and it seems not improbable that people may have been buried in this state in mistake for death.

Catalepsy is in many cases associated with other diseases, and it sometimes ends in epilepsy. Curiously enough, some cataleptics are able voluntarily to induce the fits at almost any time. It has been supposed that absence of mind is in reality a slight form of catalepsy. When a man is in a "brown study," or reverie, the eyes are fixed by a muscular action similar to that which occurs in the cataleptic, and not the eye only, for a limb or the whole body will remain in the same position for many minutes, the senses themselves being in deep abstraction from surrounding objects.

Catalepsy is by no means a dangerous disease, for recovery almost uniformly takes place. The best remedy is bromide of potassium. It should be given in two or three table-spoonful doses of the mixture (Pr. 31) three times a day. The oxide of zinc pills (Pr. 66) will in some cases be found useful. The administration of strychnia is often attended with benefit. Several cases have been treated successfully with small doses of tincture of *Cannabis Indica*, the Indian hemp. Only one of these drugs should be given at a time. It is very essential that the mind should be brought under proper discipline, and kept as far as possible from all causes calculated to promote emotional excitement.

CHILBLAINS AND CHAPPED HANDS.

A chilblain is a low form of inflammation of the skin, usually of the hands or feet, attended with itching, tingling, burning, and swelling of the part. It is chiefly a complaint of early life. Boys and girls at school are the chief sufferers. Men seldom suffer from them, but some women are subject to them all their lives. A tendency to chilblains often runs in families. They occur most frequently in people who have a weak circulation, as evinced by cold feet and hands, and occasional blueness of the lips and tips of the fingers during the winter months. Their appearance is generally ascribed to too suddenly warming the hands and feet after they

have been thoroughly chilled. In some constitutions, however, they are very readily produced. A sudden change in the weather, a rapid thaw, or an east wind, may act as an exciting cause.

Chilblains appear most commonly on the hands, but sometimes on the feet, and more rarely on the lobe of the ear or the tip of the nose. Their course varies somewhat in different people. In some they itch very much, and this is a constant source of trouble, whilst in others this symptom is almost entirely absent. Sometimes they break very easily, but frequently enough they exhibit no such tendency.

Why do chilblains occur so frequently in school-girls? Simply because the mode of life adopted in many of our schools is eminently favourable to their production. Just talk the matter over with any school-girl you may happen to know, and you will soon see that this is the case. In the first place, you will find that even in the middle of the winter she has to turn out at six in the morning. "All in the dark?" "Oh, yes," she says; "but we have a candle." "And there's no fire in the room?" "Oh, no, and sometimes it's *so* cold; once, just before the holidays, the water was frozen in the jug quite hard, and we had to break it." "And what do you do then?" "When we're dressed we go down in the school-room, and practise for an hour." "Of course it's warmer there?" "Oh, no, it's very cold. Jane never lights the fire till past seven." "And what time do you get breakfast?" "Oh, not till eight o'clock; sometimes it's twenty minutes past." We have no hesitation in saying that very frequently this is prejudicial to the health of a young growing girl. Many a big strong fellow of six feet two would suffer under such treatment. We do not say anything about the early hours, provided the children get to bed in good time, and get a good night's rest. But we do object, and that very strongly, to their having no hot water to wash in. When they get down-stairs they should find a good blazing fire in the school-room, and the first thing to be done should be to have a good hot breakfast. After that they may practise as much as you like, but they would not suffer from chilblains. We do not advocate "coddling" children; but there is a medium in everything.

Sufferers from chilblains should have a liberal diet, and a glass or two of wine added to the daily food will not do any harm. For grown-up people, a glass of rum and milk before getting up in the morning is a good thing. In the case of young people it is very important to see that they have plenty of good warm under-clothing. Flannels should be worn from head to foot, and we may be excused for saying that they should be changed with sufficient frequency. It is very necessary to protect the feet and hands from cold. There is nothing like having good roomy boots and good warm socks. People may make ill-natured remarks, and say something about "beetle-crushers" in connection with your feet, but never mind—wait till they get chilblains. Do not be afraid of wearing good big gloves lined with wool. Tight kid gloves are an abomination. They may be very pretty to look at, and no one can help admiring a nice little hand, but they prevent the free circulation of the blood, and make the fingers horribly cold. There is another thing; do not wear elastic bracelets, and do not wear tight garters. If you want to get rid of your chilblains, you must take plenty of out-door exercise. Do not stay in day after day because it is wet. It is nearly always fine some time in the day. If it shows no

signs of holding up, you had better wrap up well and go out for a good brisk walk all the same, only mind you change your things directly you come in. Never sit down for a minute in your wet boots. The skipping-rope is an excellent institution. If you have chilblains, do not be in a hurry to give it up; you are to take it medicinally, and it will do you more good than cod-liver oil.

And what about medicine? There are a good many applications which may be advantageously used for chilblains, especially before they are broken. One of the best is iodine ointment. Send to the chemist for some, and rub it well over the chilblains—always supposing the skin to be unbroken—two or three times a day. You may wear an old glove over it if you like, only it must not be tight. This is a most excellent mode of treatment, and will nearly always effect a cure in two or three days.

There is another good method of treating chilblains which we can recommend. The only objection to it is that the application takes a little time and trouble to prepare. It is admirably adapted for people who habitually suffer from chilblains. It is as follows:—Make a strong tincture of capsicum-pods (chillies), by steeping them for several days in a warm place in twice their weight of rectified spirits of wine. Dissolve gum-arabic in water to about the consistency of treacle. Add to this an equal quantity of the tincture, stirring it together with a small brush, or a large camel's-hair pencil, until they are well incorporated. The mixture will be cloudy and opaque. Then take sheets of silk or tissue-paper, give them with the brush a coat of the mixture, let them dry, and then give another. Let that dry, and if the surface is shining there is enough of the peppered gum, if not, give a third coat. This paper, applied in the same way as court-plaster to chilblains that are not broken, speedily relieves the itching and the pain. It acts like a charm, and effects a rapid cure. We may mention incidentally that the same method of treatment proves very successful in burns that are not blistered, and in discoloured bruises.

A solution of sulphurous acid, either applied in the liquid form, or used as a fumigation, by means of a spray apparatus or scent-diffuser, is very useful for chilblains. A good wash for the hands when affected with chilblains is sulphurous acid three parts, glycerine one part, and water one part.

When chilblains are broken it is a good plan to poultice them. The application of glycerine of starch often gives relief. A coating of collodion will serve to protect them from injury.

In connection with chilblains we will say a word on the subject of chapped hands. This affection consists of slight inflammation of the skin of the part which subsequently becomes cracked. It occurs most frequently in frosty weather, when it sometimes gives rise to much pain and inconvenience.

The treatment is, on the whole, similar to that adopted in the case of chilblains. Glycerine, glycerine of starch, or one part of glycerine mixed with two parts of eau de Cologne, will form an excellent application. Either of these will remove the stinging, burning sensation, and make the parts soft and supple. When undiluted glycerine is applied to a delicate skin it is apt to produce smarting and irritation. Rose-water may, if preferred, be used in place of the eau de Cologne.

Collodion is sometimes applied to chapped hands and chapped nipples, but



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chapped hands and lips are better treated with glycerine of starch or the mixture of glycerine and eau de Cologne. Arnica ointment also frequently proves of service, as does the solution of sulphurous acid.

CHOLERA.

True Asiatic cholera is a disease which is always more or less prevalent in Calcutta and Bombay, and occasionally visits England in the form of an epidemic. It is a disease we are not very likely to be called upon to treat, and it will consequently be our endeavour to make our remarks on this subject as concise as possible.

The following are the dates of the epidemics which have occurred during the present century :—1827, 1842, 1848–9, 1853–4, 1865–6. Since 1866 a few isolated cases have occurred, but there has been no epidemic.

Cholera probably depends upon the entrance of some poison into the system. This has hitherto evaded chemical and microscopical research, and we know nothing respecting its origin or mode of propagation.

Certain circumstances influence the spread and development of cholera. Great importance has been attached to meteorological conditions, but apparently without sufficient reason. It is but little influenced by ordinary atmospheric changes. The opposite conditions of heat and cold, of humidity and dryness, and of high and low barometric pressure have prevailed during different epidemics. It usually reaches its height during the hot months, but it is not exterminated by cold. A sudden change in the weather will often cause a considerable decline in the number of cases. Cholera is always more prevalent in low-lying districts than in elevated regions. In epidemics in London, people living on the banks of the Thames, or but little above its level, suffer more than those in other parts of the town.

There is strong evidence to show that impure water plays an important part in the propagation of the disease. In several cases violent attacks of cholera have been traced to the use of bad food, such as putrid fish, pickled pork, and decayed cheese.

Over-crowding, want, excessive fatigue, and depressing mental emotions, by lowering the general condition of the health, favour an attack. People who “are frightened out of their wits” about the cholera are for this reason very likely to suffer from it.

Cholera attacks men and women indiscriminately, and people of all ages suffer. Both the strong and the weak fall victims to its deadly power, and it has been found in the army that the most robust are often the first to be stricken down. The previous habits of life exert but little influence, although in some epidemics it has been thought that the intemperate were more subject to attacks than the abstemious. Occupation produces no special liability, although those which expose the individual to unhealthy influences may increase the risk. In the army the privates always suffer more than the officers.

The limitation of the area of the disease is often very abrupt. In some instances it has been strictly confined to one side of a street, camp, or town.

Is cholera catching? There is considerable diversity of opinion respecting its

contagiousness, so that it is quite evident that it can't be very catching. The doctors, nurses, and others engaged in attending to the sick do not suffer from it more than other people. It would seem as if the poison affected places rather than individuals. The following may be quoted as an example:—A regiment proceeding by water down the country had the disease badly. It met a corps coming up the country, with which it exchanged boats: the disease stuck to the boats, left the corps it first affected, and attacked the new regiment, which had a clean bill of health. By many it is supposed that the disease is communicated only by the stools or vomited matter of the patient. Practically what it comes to is this: that if you want to nurse any one suffering from the disease you need not be deterred from so doing by fear of catching it. There is a little risk, but very little.

One attack affords no protection from another.

The disease often sets in with purging and vomiting, but in many cases the bowels are relaxed for some hours or days before the real attack begins. The bowels are opened three or four times in the twenty-four hours, perhaps with a little griping, and the motions are watery or semi-fluid. There may, in addition, be a little feeling of exhaustion.

We have no intention of describing an attack of cholera in full, but shall content ourselves with little more than an enumeration of the leading symptoms. The attack begins with violent purging, usually painless, but sometimes attended with griping. At first the motions consist of the contents of the bowel, mixed with much fluid, but subsequently they assume the appearance of water in which rice has been boiled. They are shot out with considerable force, often in a full stream, and the quantity may be so great as to fill an ordinary-sized stool-pan in two or three hours. The evacuations are frequently repeated, the patient becomes exhausted, and is glad to remain in bed. With purging is generally combined vomiting, the fluid, which is clear and watery, being ejected with considerable force, often in quantities of a pint or more. Cramps in the limbs set in, the face becomes shrunk, the pulse feeble, and the patient passes into a state of collapse. In this condition there is the utmost depression possible with a capability of recovery. The surface is deadly cold, the tongue icy to the touch, the very breath a cold air stream, and the temperature in the mouth often as low as 80° . The patient may die in a few hours, or he may remain in this condition for a day, or even two days, and then recover. When reaction sets in recovery is generally very rapid. It is said that a woman has been standing at her door on Wednesday, who on Monday was in perfect collapse.

The mortality in cholera is high. In some epidemics it is from 20 to 30 per cent., in others from 70 to 80. It is usually higher at the beginning of an epidemic than towards its termination.

There is usually no difficulty in recognising a case of cholera. The purging, vomiting, anxious countenance, cramps, and the quick advent of collapse, indicate only too surely the nature of the complaint. The only other disease with which it is at all likely to be confounded is choleraic diarrhoea, or as it is sometimes called "choline." Should there be any doubt as to whether it is true cholera or only choleraic diarrhoea, act on the supposition that it is the more serious disease.

How are we to avoid cholera? This is a question which one naturally asks,

oneself during the prevalence of an epidemic. We trust the following rules will afford a satisfactory answer :—

HOW TO AVOID CHOLERA.

1. If possible, remove from the affected locality. The higher you are above the sea-level the better.
2. Avoid over-fatigue, and maintain a good condition of general health.
3. Don't take purgatives, if you can avoid it.
4. Avoid indigestible food, or food that is high or in a state of decomposition.
5. Have your drinking-water boiled, or use a charcoal filter.
6. Have your milk scalded.
7. Never consider any attack of diarrhoea trivial, but at once take steps to check it.

The slight diarrhoea of early cholera is usually so painless that it is very apt to be overlooked. It is a standing order in the case of soldiers in India, that if any man goes twice to the closet in one day he should report himself, and non-commissioned officers are usually stationed at the latrines to see that this salutary order is carried out. In England and Germany, a house-to-house visitation is usually established during the prevalence of an epidemic.

There are certain precautions to be observed by those in attendance on the sick. Every discharge should be at once thoroughly disinfected by being mixed with a considerable quantity of strong carbolic acid, perchloride of iron, or chloride of zinc. In large towns, the stools must of necessity be emptied down the water-closets; but in the country they should, after thorough disinfection, be buried deeply at a distance from the house, and especially from the source of water supply. The greatest care must be taken to thoroughly steep all linen in strong soda, or in Condy's fluid, before washing it. Articles of clothing that cannot be washed had better be destroyed. Every one who has been in the sick-room should, before going to meals, carefully wash his hands in hot water, to which some carbolic acid has been added. The use of the nail-brush is also desirable.

We must now consider the question of treatment. The first thing to be done in a case of cholera, or even of suspected cholera, is to send for the doctor, saying what is the matter. If, as is sometimes the case in the country, some hours must elapse before the arrival of medical aid, you must begin treatment yourself. Almost every minute is of importance, and a few hours' delay may make all the difference between life and death. The drug on which you must rely is camphor. You must give the strong solution, the essence of camphor, in four drop doses, every ten minutes for an hour, or until there is some improvement, and hourly afterwards. It is best given in about a tea-spoonful of milk. The great thing with this remedy is to give it early, to give it frequently, and to give it in sufficiently large doses. It checks the vomiting and diarrhoea almost immediately, wards off the cramp, and restores warmth to the extremities. Camphor is so speedy in its action, that by the time the doctor arrives he may find his patient on the high-road to recovery, and will have some difficulty in believing that he has been so seriously ill. If you haven't the essence of camphor, you can use the camphor pilules, which most chemists keep.

In the latter stages of cholera, where there is much collapse, arsenic may advantageously replace camphor. You should give half a tea-spoonful of the arsenic

mixture (Pr. 40) every ten minutes for the first hour, and subsequently hourly for six hours, or until the symptoms abate.

COLD.

Catching cold is one of the most general and most prolific causes of disease. When we consider that such affections as bronchitis, pneumonia, consumption, quinsy, pleurisy, rheumatism, neuralgia, toothache, and a host of others, may have their origin in a cold, we must acknowledge that it is not easy to overrate its importance.

We will in the first place consider what are the causes of cold, and under what circumstances it is likely to be produced. Insufficient clothing is undoubtedly a very frequent cause. The custom of leaving uncovered the thighs and legs of children, and the neck, chest, and arms of young girls, is a bad one. The importance of protecting these parts is recognised in the case of adults, but, curiously enough, in those of tender years they are unhesitatingly exposed to the inclemency of the season. The exposure may be only occasional, as when ladies wear low-bodied dresses at balls and evening parties, but it is none the less hurtful on that account. There can be no doubt that many cases of consumption have their origin in the custom of using insufficient clothing at evening entertainments. Evening dress is usually very much lighter than that worn during the day, and it often affords very little protection against cold and draught. Moreover, the heated impure air in places of public assembly promotes perspiration, and thus renders the body more susceptible to cold on going into the cooler outer air. After dancing, especially, one should be very careful in passing along cool corridors or passages. The great thing is to keep moving, and to cover the shoulders with an opera-cloak or cloud, or something of the kind. Many people have caught a severe cold while waiting for the carriage, or in walking home in their thin boots and upper clothing. Men naturally suffer less in this way than do women. Neglecting to wear flannels in the winter is a prolific source of cold. Those who are at all weak on the chest should wear flannels night and day, summer and winter. The flannels should be changed at least once a week, and the same flannel should never be worn night and day. This is a point which is constantly neglected, even by those who in other respects are scrupulously cleanly in their habits.

The origin of a cold may in many instances be traced to getting wet through. Clothes when dry are imperfect conductors of heat, and retain the natural warmth of the body. When they are wet, evaporation takes place, much heat is consumed in the process, and the body becomes chilled. If, however, the heat thus lost is continually renewed by exercise, a cold is not taken. If you get wet through, it is better to keep in motion till you have an opportunity of changing your wet things than to stand still. It is better for you to walk home than to ride. If you keep on the move, probably no harm will come of your wetting. Sitting on a wet seat, or on the damp grass, often gives rise to cold. The heat of the body passes off rapidly, and there is no increased production to compensate for it. Another very common cause of cold is sitting in a draught. It is pleasant enough to sit in a current of cool air when the body is heated by exercise, but it is a dangerous practice, and a

luxury that should never be indulged in. Even when there is no draught, cold air may be the starting-point of a cold. Many people have a great dislike to "begin fires," and leave it till quite late in the autumn, no matter how cold it may be, before they will consent to have one lighted. This, to say the least of it, is false economy. It is curious how frequently, in making formal morning calls, one is shown into a large, cold, damp drawing-room. The fact is, the family habitually live in the dining or breakfast-room, and seldom have a fire in the other apartments, unless they expect visitors. A call made under these circumstances often results in a cold; and if the slightest feeling of chilliness is experienced, the sooner a move is made the better. Going up to bed in a very cold room may lay the foundation of all kinds of mischief. The only thing is to undress as fast as you can, and jump into bed. Passing rapidly through the air, as when you are riding in an open or partially opened carriage, or when sitting in a train next to the window, may give rise to cold. All danger may usually be avoided by putting on your overcoat, or covering yourself up with your rugs.

Damp often gives rise to cold. A damp house or room, or a house with a damp cellar, is an abomination. How often do we hear the exclamation, "This is a wretchedly damp house; I am never well in it." When such is really the case, the sooner a move is made the better. If a house is damp, it is almost impossible to keep it warm. Then, again, many people move into new houses almost before they are finished. This practice is by no means confined to the poor, and many a rich man has dated not only the spotting of his mirrors and the tumbling to pieces of his furniture from this injudicious procedure, but also his rheumatism or bronchitis, or whatever it may be. A new house should be allowed plenty of time to dry before it is inhabited. When people have been away from home for even a week or two, fires should be lighted in all the rooms the day before their expected return. When the house is left in charge of the servants, they should receive orders to have a fire in each of the rooms in turn, or they will assuredly get damp and stuffy.

Nothing can be more prejudicial to a person's bodily welfare than sleeping in a damp bed. The unsuspecting sleeper not only parts with the heat of his body in drying the damp sheets, but does so at a time when his vital functions are at their lowest ebb. A thoughtful hostess will always see that her guest's sheets are properly aired. It may seem a small matter, but its neglect has cost many a man his life.

Prolonged bathing often gives rise to cold. In a healthy person the chill which results from the first plunge is at once followed by a reaction, which is salutary. In a man with a sound heart and good lungs, this reaction is maintained for some time, but in people of feeble constitution it is transitory. Directly you begin to feel cold and chilly in the water it is time to come out. Have a rub down with a good rough towel, put on your flannels, and run about till you feel warm, and then dress as quickly as you can. The practice of idling about on the bank in a state of nudity, either before or after bathing, is very dangerous. Cold bathing is the best tonic in the world, especially for young people, but if you remain in the water after you feel chilly you are almost sure to catch cold.

A general state of debility powerfully predisposes to the occurrence of cold. A person who is constitutionally weak catches cold from an exposure that would prove

innocuous in the case of a strong, healthy man. The very young, the very old, the anæmic, the cachetic, the convalescent, and the licentious, are all more prone to catch cold than others. Whatever lowers the general tone of the system predisposes to the occurrence of this, the commonest of all disorders. Drunkards suffer greatly from colds and their consequences. Many people when exposed to cold, take wine or brandy, or spirit in some form or other, with the view of keeping out the cold. This is an injudicious measure, for as soon as the primary stimulating action is over, there is a reaction, with increased depression, and the person is more than ever likely to suffer from exposure. It has been shown experimentally that alcohol depresses the temperature of the body, and so, far from keeping out cold, it lets it in. There is no objection to taking a moderate allowance of alcohol when the exposure is over, for the stimulating effect may be beneficial, and by the time the reaction sets in, the patient will have changed his things, and will be warm and dry, and not likely to suffer in any way. Practically, what it comes to is this, that if you have to take a long walk in the rain, you should not stop half way to have a glass of grog, but there is no objection to your having something to drink when you arrive at your destination. Puddlers, and other workers in iron-furnaces, find that they can work better, and that they suffer less from colds and their consequences, if they dispense entirely with alcohol. The Arctic voyager knows, too, that he can withstand the rigours of the climate better without his grog than with it.

A cold is called in scientific language a catarrh. It consists essentially of inflammation of the mucous membrane of some portion of the air-passages. When it is confined to the mucous membrane of the nose, it is spoken of as a cold in the head. When it is attended with much watery discharge from the nose, the complaint is called "coryza," and when with much pain over the forehead "gravedo." If the disorder should extend into the lungs, the patient is said to have a "cold on his chest," or from one of its most prominent symptoms, "a cough," or in other words a "slight attack of bronchitis." The inflammation often enough travels from one part of the mucous membrane to another. Beginning for example in the nose, it gradually creeps down into the wind-pipe and lungs. Sometimes it passes from the throat up towards the ear, and produces deafness, or down the gullet to the stomach, causing qualmish and other uneasy sensations, and loss of appetite.

General directions for the treatment of a cold will be found under *Acute Bronchitis* (p. 154).

Medicinally, the best treatment for a cold is aconite, and the earlier it is given the better. A tea-spoonful of the aconite mixture (Pr. 38), should be given every hour or two hours, according to the severity of the symptoms. If there is not much fever, a still smaller dose may be taken. The patient had better go to bed and keep quiet; he should not take much food, but may drink freely of water if thirsty. This treatment may be continued for from six to twelve hours, or even longer. If the skin becomes moist the other symptoms usually quickly disappear, and a few more doses of the medicine will effect a cure. This treatment is very simple, and is usually successful. It is especially useful at the beginning of a cold, and is, in fact, applicable to the commencement of any acute illness. It is, it will be seen, somewhat different from the treatment recommended when speaking of acute bronchitis. The explanation

is very simple : there are two different ways of arriving at the same result, and you can adopt which you prefer.

If a person finds himself unavoidably exposed to cold-producing causes, he may often prevent any unpleasant consequences by the use of aconite. As there is as yet no fever to subdue, very small doses will suffice. After exposure to cold, and before the appearance of any symptoms, a few doses of the same medicine may serve to ward off an attack. The great thing is to have your aconite bottle handy ; if you have to waste an hour or two sending for it, the opportunity for its use may be lost.

When the patient has caught cold and is suffering from persistent shivering, camphor is the best remedy. From three to five drops of the essence may be given every quarter of an hour on sugar, or the camphor pilules may be used. As soon as reaction takes place, and warmth is restored, the camphor should be discontinued, and aconite substituted.

When symptoms of inflammation of any special organ have made their appearance, the drug indicated for this complication may be given in alternation with aconite. Thus phosphorus may be given for pneumonia, belladonna for congestion and inflammation of the brain or throat, bryony for rheumatism or lumbago, and so on. As soon as the symptom indicating aconite has disappeared or become subordinate, the administration of that drug may be suspended.

When the cold has settled on the chest, bryony (Pr. 49) is an admirable remedy. It is indicated when there are heat, pains, and soreness behind the breast-bone, and an irritative, shaking cough with scanty expectoration. This kind of cold often occurs in elderly people at the beginning and end of the winter, in conjunction with stuffiness of the nose, running from the eyes, and derangement of the stomach. Bryony may follow aconite, or may be given alone.

Nux vomica (Pr. 44) is useful for a stuffy cold, and for violent coughs with little or no expectoration. Ipecacuanha (Pr. 50) is of value where there is much sneezing.

There are other remedies, which are useful when aconite has not been employed, or the more acute symptoms have passed away. Thus small doses of arsenic (Pr. 40) succeed admirably in some cases. A two ounce dose of the iodide of potassium mixture (Pr. 32), taken every night at bed-time for three or four nights, will often cure a cold in the head, especially when there is much running from the eyes and nose. This is an excellent remedy for deafness arising from cold. It does very little good when the cold has settled on the chest. Inhalations of iodine often do good in coryza. A table-spoonful of the tincture of iodine should be put in a jug of boiling water, and the vapour inhaled. Eight or ten chlorate of potash lozenges a day will sometimes arrest a cold ; but this is not one of our best remedies.

A cold in the head may often be speedily cured by the use of a snuff made as follows :—

Take of Hydrochlorate of morphia, two grains,
Acacia powder, two drachms,
Subnitrate of bismuth, six drachms. Mix.

Of this powder, from a quarter to a half may be taken as snuff in the course of the twenty-four hours. Its employment should be commenced as soon as the

symptoms of coryza show themselves, and it should be used frequently at first, so as to keep the interior of the nostrils constantly well-coated. Each time the nose is blown, another pinch should be taken. It may be taken in the ordinary way, from between the thumb and forefinger; but a much more efficacious and less wasteful method is to use a small gutter of paper or a "snuff-spoon," placing it just within the nostrils, and sniffing up forcibly, so as to carry it well within. Some of the powder finds its way into the throat, and may do good if there is any catarrh there. The snuff causes scarcely any perceptible sensation; a slight smarting may occur if the mucous membrane is much irritated and inflamed, but it rapidly disappears. After a few sniffs of the powder, a perceptible amelioration of the symptoms ensues, and in the course of a few hours, the powder being inhaled from time to time, all the symptoms will have disappeared.

To diminish excessive sensitiveness to cold, out-door exercise is of the first importance. People who coddle themselves in-doors all day long are just the people who catch cold. The morning cold-bath should be used by everybody, especially if at all subject to colds. Some people like the shower-bath; but the majority of town-dwellers find the shock too great. A respirator is of essential service in preventing colds. The subjects of asthma, bronchitis, and quinsy should always use one on going out into the fog or cold air.

COLD FEET.

What a common complaint this is! and yet no one seems to know anything about it. You suffer from it for years, and yet you don't go to a doctor, or if you do you derive very little benefit from his advice. Some people suffer from it at night only, whilst others are troubled in the daytime as well. It occurs most frequently in women, but still you often hear men complain of it. We believe that the best remedy is hypophosphite of lime in one or two grain doses twice a day. This is soluble in water, and should be taken in the form of a mixture, nothing else being put with it, with the exception, if you like, of a tea-spoonful of syrup, to make it more palatable, although it is really by no means disagreeable by itself. Another good remedy is *nux vomica*—five drops of the tincture in a little water three or four times a day. It is highly recommended, and you may hope for great things from it. Then you must do all you possibly can to improve the state of your general health. It is probable that you are below par somehow or other, although we must admit that it does not follow of necessity. If you feel generally out of sorts, and your appetite is poor, quinine (*Pr. 9*) will do you good. If you are pale and anæmic, you must put your faith in iron (*Pr. 1*). Parrish's Chemical Food often does good. Cod-liver oil is an excellent remedy for improving the general nutrition; many people feel quite in a glow after each dose. You should live as well as possible, and a glass or two of port wine a day will do you good. Cold bathing in the morning will quicken the circulation for you. A good brisk walk, if you are able to take it, soon warms the feet. It is a great thing to be properly shod; good stout, well-fitting boots, with thick, warm socks. If you for any reason are unable to get walking exercise, you will find that five or ten minutes' exercise with the dumb-bells in your room

before breakfast is not a thing to be despised. The hot-water bottle in bed at night is a palliative, but does nothing to effect a cure. Many people who have suffered from cold feet have assured us that they have derived the greatest benefit from putting them into cold water at bed-time. It seems a disagreeable remedy, but they say that the reaction which almost immediately follows the primary chill is delightful, and that the plan succeeds admirably. The best way would be to rub the feet quite dry with a bath-towel after bathing them, and then to jump into a warm bed.

COLIC.

Colic is a very familiar complaint. Sometimes it is known as spasm of the bowels, gripes, or belly-ache. It is characterised by severe twisting pain in the belly, especially about the navel. It comes on by fits and starts, is not stationary, but on the contrary moves about from spot to spot. There is no inflammation, and the pain is relieved by pressure. The disorder is accompanied by constipation, and often by vomiting; there is no fever, and no quickness of the pulse, neither is there that depressing anxiety which occurs in inflammation of the bowels, although the pain may be as severe.

Colic occurs more frequently in women than in men. It is probable that the greater sensitiveness of the fair sex, and their susceptibility to mental and moral emotions, favour the development of this complaint. It is more common in youth and adult age than in advanced life. It has been noticed that the particular temperament of the patient will confer a proneness to, or tend to give an immunity from, this complaint; those who are nervous or melancholic being more liable to it than those who are of an indifferent or phlegmatic disposition. A general condition of ill-health, or lowered vitality, predisposes to its occurrence. Those who are pulled down by over-work or anxiety, or by some chronic illness, are not infrequently sufferers. During the convalescence from fever, and after large losses of blood, colic is by no means uncommon. Excessive suckling, by lowering the general condition of health, favours its development, and the same may be said of excessive menstruation, "whites," and bleeding piles. The influence of cold in producing an attack of colic is remarkable, especially when cold is applied to the feet. There are many people who are sure to suffer from colic if their feet get wet or cold. It would seem that mental fatigue, as that produced by long-continued and great intellectual efforts, may be followed by the same result. In people whose vocations are such as to demand a continued strain of thought, or whose hopes and fears are excited by speculation, as in commercial enterprises, and in those whose faculties are stimulated by some career of ambition, it is by no means uncommon. Among the causes of colic, one of the most frequent is the presence of some indigestible article of food in the bowels. Shell-fish, dried salt meats, pork, badly-cooked food, unripe fruit, and the like, are great sinners in this respect. That flatulence will often produce colic, especially in children, is a fact so familiar as scarcely to merit comment. The movement of gases from one part of the intestine to another will explain the shifting of the pain. Constipation is undoubtedly the commonest cause of the complaint, which is usually not relieved until the bowels are moved. Even when there is

diarrhœa, it may be associated with an accumulation of irritating matter in the intestines. We shall presently have occasion to refer to a form of colic which is known as painters' colic, and is due to the presence of lead in the system. Copper-smiths, and especially the workers in copper at shipbuilding yards, often suffer from a somewhat similar condition, which may be called copper colic.

The essential and most characteristic symptom of colic is pain. This pain is marked by the occurrence of exacerbations of very great and even intense severity. It is sometimes so severe as to cause even people usually but little prone to give utterance to their feelings to utter loud cries and groans. Internal restlessness, and frequent turning and twisting of the body, characterise the sufferer from colic. Often enough he paces up and down the room, bending forwards and pressing his hands on his belly. Sometimes he flings himself on his face on the bed or sofa. When lying on his back, his knees are drawn up, and are often retained by the hands in this position. By firm pressure the pain is sometimes mitigated, or even temporarily removed. The attack is often accompanied by great general depression. The skin is cool, the face pale, and the pulse, instead of being quickened, is often slower than natural. In severe cases, sickness and vomiting may supervene; and when the malady becomes intensified and the agony excessive, the entire surface may be bedewed with a chill, clammy perspiration, the extremities becoming cold and of venous hue, and the general aspect that of collapse. Much importance is usually attributed to the slowness of the pulse in colic, for not unfrequently it enables us to distinguish between this complaint and inflammation of the bowels. It should always be remembered, however, that in very severe cases the latter condition is not unapt to supervene upon the former. When wind is the cause of the colic, the abdomen is often greatly distended; and with the expulsion of the confined gases not only does this disappear, but the sufferer obtains almost immediate relief. A confined condition of the bowels is, as we have already shown, the usual accompaniment of colic, and not infrequently when the bowels have been efficiently acted on by medicine the pain entirely disappears. This, however, is not always the case; for, notwithstanding the action of a laxative or purgative, the pain may be persistent. In children, spasmodic pain in the bowels is often followed by digestive disturbances, and the irritation may give rise to convulsions.

The mode of onset of an attack of colic is very variable. It may come on quite suddenly, and without any apparent cause, or it may be slow and gradual in its establishment, the paroxysms being preceded by a sensation of uneasiness in the abdomen. The progress and duration of the malady are equally variable; it may, however, be regarded as a fact, that the more severe the fit the shorter will be its continuance. It may exist for days, or may last only for hours, or even minutes. It is probable that these irregularities are dependent more or less on the nature of the exciting cause. The attack is sometimes cut short by the advent of profuse perspiration, the supervention of diarrhœa, or even the occurrence of menstruation. It sometimes happens, when the affection occurs in women, that the discharge of a large quantity of pale or almost colourless urine is at once succeeded by the mitigation of the attack.

We now pass on to the treatment of colic. The great thing is to relieve the pain,

and get the bowels to act. In mild cases, little difficulty will be experienced in affording relief. A hot glass of brandy-and-water, a tea-spoonful of compound tincture of cardamoms in a little warm water, or thirty drops of compound tincture of chloroform, will often quickly relieve the pain. A tea-spoonful of spirits of lavender, twenty drops of essence of peppermint, or a little sal volatile, or essence of ginger or cloves, will usually prove equally efficacious. The carminative mixture (Pr. 17) is a capital remedy for colic. Sal volatile and carbonate of ammonia in small doses are often useful for children, especially in the case of infants tormented with colic as the result of bad feeding. In every case of colic the bowels should be thoroughly opened. It is often advantageous to take a table-spoonful of castor oil with, for an adult, twenty-five drops of laudanum. The external application of warmth to the abdomen, as by a mustard poultice, will often prove a valuable accessory. In the case of children, a hot-water bottle wrapped in flannel—or, what is even better, a bag filled with warm chamomile flowers—may be used for this purpose. When the colic has resulted from taking some indigestible article of food, it may be advisable to excite vomiting by the administration of an emetic of ipecacuanha, or by a draught of warm water. Should the bowels still remain confined, it may be necessary to take a more powerful purgative, as a dose of salts (Pr. 25), or a black draught (Pr. 24). A large enema of tepid water will often speedily relieve the bowels, and ease the pain. A warm bath is in many cases a useful auxiliary.

In obstinate cases of colic other remedies may have to be resorted to. Thus, small doses of tincture of colocynth will often succeed when other means have failed. This remedy is especially indicated when the pains are cutting or griping in character, when they are very severe, and when they are accompanied by flatulence or diarrhœa. Ten or fifteen grains of chloral in a little water will sometimes ease the pain. Tincture of belladonna (Pr. 39) is especially useful in the colic of children. Nux vomica (Pr. 44) is useful when the colic is due to flatulence, and is associated with irregularity of the bowels. Bromide of potassium (Pr. 31) should be given in a form of colic which sometimes affects children of from a few months to one or two years of age. The walls of the belly are retracted and hard, while the intestines are at one spot distinctly contracted into a hard lump, the size of a small orange, and this contraction can be traced through the walls of the belly, travelling from one part to another. These colicky attacks, which produce excruciating pain, are of frequent occurrence, and are often unconnected with constipation, diarrhœa, or flatulence.

People who are subject to colic should be particular in the avoidance of all indigestible articles of food, and in the protection of the surface of the body from the injurious influence of cold. Wearing a piece of flannel round the abdomen, and keeping the feet well protected from damp, should be especially enjoined.

CONSTIPATION.

By constipation we mean confinement of the bowels. Not only are the stools not passed with sufficient frequency, but they are usually at the same time deficient

in quantity, as well as too dry and solid. In many instances it is a mere temporary derangement, but in others the bowels are habitually confined.

There are few who have not experienced at some time or other the inconveniences of constipation. Those who suffer from it only occasionally will be prepared to attach but little importance to it, but people with whom it is habitual know that it is one of the greatest of the minor troubles of life. It may be taken as a rule that persons enjoying robust health have a motion at least once daily. Yet there are many, apparently equally healthy, who have their bowels relieved habitually every two or three days only, or even but once in a week or fortnight. There are, indeed, cases recorded in which fairly good health has been maintained for many years, although evacuations have during that time occurred only at intervals of six weeks or two months. In one instance, that of a lady who indulged largely in opium, the bowels were opened only four times in the course of the year, at intervals of three months. It must not be forgotten, however, that a degree of constipation which is habitual with one person, and in him perfectly compatible with health, may be and often is a source of discomfort if not of positive illness to another in whom its occurrence is exceptional. Thus, to most people whose daily habits in this respect are regular, confinement of the bowels for even two or three days is apt to produce not only local uneasiness, such as a sense of fulness, heat, tendency to piles, and flatulence, but also some degree of general constitutional disturbance, indicated by headache, foul breath, loss of appetite, and indigestion. Even in cases where from long habit constipation has come to be regarded as the normal condition of things, some of the above specified discomforts do actually in some degree co-exist; but having become, like the constipation, habitual, they cease to be observed, or at all events become tolerable. When a motion occurs after the bowels have been long confined, the expulsion of the *fæces* is apt, from their bulk and hardness, to be attended with considerable pain, and perhaps even with some loss of blood, and to be followed by prolonged aching and burning.

What are the causes of constipation? Of all the causes which originate and establish habitual constipation, there is undoubtedly none so common as inattention to the calls of Nature, which are too frequently not only ill-obeyed, but even set aside by every trivial circumstance. How often does it happen that a lady, finding it not quite convenient to retire to the cabinet at the moment she experiences an admonition, defers it to a more favourable opportunity, but this opportunity having arrived, her efforts are powerless, the bowels will not act, and she has perforce to abandon the effort, and retire from the contest disappointed and discomfited. It should be remembered that the evacuation of the bowels is a natural and necessary function, without which health cannot be enjoyed or preserved, and some resolution should consequently be exercised in order to promote this object. Some people never think of going to the closet unless urged by an imperative necessity which they cannot resist.

The want of proper conveniences has undoubtedly much to do with the prevalence of constipation. As a rule, little or no attention is paid to the situation and construction of the water-closet. It is either placed in some out-of-the-way corner, where no one can find it, or it is so prominently situated that it requires a vast amount of manœuvring to pay a visit without the fact being patent to every one in the house.

Not uncommonly in the country it is a long way off, quite at the bottom of the garden, and very likely you have to walk right past the dining-room windows to get to it. Instead of being a bright, cheerful little chamber, where you might pass five or ten minutes with a certain amount of comfort, and moralise on things in general, it is a cold, damp, repulsive room which gives you the shivers even to look at.

It too frequently happens that the pleasures of a country visit are completely neutralised by the difficulty in attending to the bowels. If you ask a friend to come and stay with you, one of the first things you should do should be to explain to him the "anatomy of the place." In most country houses of any pretensions they put up elaborate notices telling you all about the times the post goes out, and so on, but they never give you any information respecting the situation of the water-closet, a very much more important matter. In every visitor's room there should be placed plain, straightforward directions for finding the w.c.

In the construction of houses, too much attention cannot be given to determining the situations in which the water-closets are to be placed, in order that the access may be easy and the egress private. In many houses there is only one water-closet for the whole family. There should never be less than two, and it would be a good thing if one were reserved exclusively for ladies. People put themselves to a vast amount of expense in fitting up apartments and providing entertainment for their friends, but they too often neglect the one thing which is so essential for their comfort and well-being.

Want of exercise is a very common cause of constipation, especially in the case of women. Ladies may take a formal walk once a day, but they seldom do much more. The upper classes residing in town get very little muscular exercise, except in dancing, the use of the legs being almost entirely superseded by the carriage. Considering the inactive life led by the majority of women above the station of domestics, one feels no surprise that the bodily functions are ill-performed, but rather wonders that the consequences are not more serious than they are. In spite of want and privation, we find that the majority of girls in the lower classes of society are well-formed, whilst the rich and well-to-do are often weak and puny. Many a kitchen-maid has a physique that a duchess might envy.

A man or woman, to keep in "good form," should have, at least, a couple of miles brisk walk every day, or its equivalent in some other form of muscular exertion. Some people require very much more. Dawdling about in the street and looking in the shop-windows does very little good; what you want is a good sharp walk that will bring the colour up in your cheeks, and make you feel in a glow all over. That is better than pills.

Mental anxiety is another cause of constipation. In proof of this we find that many people while actively engaged in business experience considerable difficulty in regulating the bowels, but as soon as they get away in the country, and emancipate themselves from worry and anxiety, the mind recovers its cheerfulness, the spirits their wonted elasticity, and the bowels resume their normal condition.

Literary pursuits are said to be eminently favourable to the development of constipation. There are many writers who, partly from want of time, and partly

from the sedentary nature of their habits, seldom have the bowels relieved oftener than once a week.

Travelling has usually the effect of discouraging the action of the bowels, and not unfrequently it gives rise to considerable inconvenience by the production of constipation. A confined state of the bowels always increases the sensation of feverish heat which many people experience when making a prolonged journey in a close railway carriage.

The abuse of purgatives may lead to constipation. The number of aperient pills which some people are in the habit of taking is very great. Instead of passing away with the action of the bowels they have been taken to accelerate, they sometimes stick together and form a considerable obstruction.

The consequences of habitual constipation are often most serious. They, of course, vary somewhat in different cases, and depend materially on the length of time the constipation has existed, and on its degree. Habitual confinement of the bowels extending over a period of some years, will naturally generate a train of evils more serious in character than when the habit has existed for only a few weeks or months. At first, the inconveniences experienced are comparatively trivial, and are not of such a nature as to cause anxiety or to attract much attention. Even when the general health has distinctly suffered, the indisposition is usually attributed to anything but the true cause. Among the earliest symptoms are drowsiness, and heaviness of the head. A dark rim appears under the eyes, and by-and-by the patient suffers from an aching, or beating, or throbbing pain in the forehead or temples, or over one eye, with a sense of weight or giddiness. Flushings of the face occur, and transient sensations of heat are experienced over the whole body, though the feet are at the same time cold. The drowsiness after a time increases, and the sufferers usually find it difficult to rouse themselves to any kind of exertion. On going to bed they fall instantly into a sound sleep which proves heavy but not refreshing, for on awaking in the morning they feel tired, and unwilling to leave the bed, and if they do not at once get up sleep quickly overcomes them, only to increase the sense of fatigue on again awaking. The menstrual functions may become deranged, and there is often a copious white discharge. The appetite is not usually impaired, although flatulence is a frequent consequence. These symptoms quickly subside when the cause is removed, and it is only necessary to restore the action of the bowels in order to re-establish the health.

When constipation has existed for a longer period, the symptoms assume a more serious character, and are less amenable to treatment. The general health suffers more seriously, the mind becomes irritable and apprehensive, noises jar and distract the brain, and strong light overpowers the eye, while, at the same time, the delicate sensibility of these organs is dulled, and the senses, though morbidly alive to powerful impressions, are no longer adapted to acute and nice perception. The pain in the head increases, it assumes a distracting character, and is often compared by sufferers to the opening and shutting of the brain. In some cases this has ended in apoplexy.

Among the more remote consequences of constipation are sick headache, indigestion, pain in the stomach, waterbrash, colic, irritation of the sexual organs,

irregularity in the functions of the womb, &c. Many mental diseases, more especially hypochondriasis and melancholy, may be traced to the same cause. Moreover, the accumulation of feces in the lower bowel may give rise to much local trouble, and may be the cause of piles, falling of the bowel, itching about the anus, and other mischief.

In the general treatment of disease, it often happens that medicines fail to exert their peculiar and specific action when the bowels are obstinately confined. Under these circumstances the preparations of iron frequently disagree, and we may look in vain for the narcotic influence of opium.

We have, we think, said enough to show that constipation is not a thing to be desired. As we have said, it has been laid down as a rule that every robust, healthy person, should have a motion once in the twenty-four hours, but to this there are many exceptions. Some people have habitually two or three evacuations daily, others only every second or third day. These peculiarities should be respected. The less frequent action of the bowels in particular individuals is not properly a state of constipation, the dejections being of a healthy character, and not having undergone those changes of dryness and hardness which usually occur when so long retained. It is obvious that it would be unwise and officious to interfere, seeing that not only no inconvenience, but absolute benefit, results from the habit. This refers only to cases where the motions are copious, free, and natural in colour and consistence.

What is the treatment of habitual constipation? Purgatives? No, certainly not! Purgatives may do very well for accidental constipation—constipation, that is, occurring once in the way; but for habitual constipation they not only do no good, but often, if continued, prove extremely prejudicial. What we want is not to give remedies which merely act upon the bowels, but to employ means to correct the derangement upon which the constipation depends.

Early rising favours the natural action of the bowels. By early rising we mean rather the avoiding a second sleep in the morning than getting up at any specified hour. From the difference of habit in different classes, and of those who reside in town or country, the hour which is early to one may be late to another, and *vice versa*. It is the lingering in bed, the going to sleep a second time after having enjoyed a good night's rest, that does the mischief. A person awakes refreshed, light, and cheerful, but if instead of at once getting up he dozes off to sleep again, he afterwards rises with unwillingness, and finds his head heavy, his spirits dull, and his bowels indisposed to act.

A very important point in the treatment of constipation is the habit of regularly paying a visit to the closet at the same time every day. Immediately after breakfast usually affords the most favourable opportunity. You are then in less of a hurry and bustle, and can afford to devote more time and consideration to the subject. Get up directly you wake, turn into your bath, and have a good sponge, then dress—no sitting about in your dressing-gown—have your breakfast, take your paper, and your pipe if you like, and retire for a good ten minutes or a quarter of an hour. It may be that you feel assured that your visit will be unproductive, nevertheless go. You may be unsuccessful to-day, and perhaps to-morrow, but in time you will succeed.

At all events you will have the satisfaction of knowing that you have done your duty. After a few weeks you will in all probability find that your bowels act with the regularity of clockwork.

Defæcation is an important matter. It is not a thing to be done in a hurry. Many of us spend an hour over dinner, and never grudge the time, but five minutes spent over an equally important matter is all too long. Many people rush to the closet, and if Nature is not prepared to relieve herself at the very instant, they never think of allowing her even a minute's grace, but simply get up and come away again; and the consequence is that they suffer from constipation and all its attendant evils—and serve them right too. Attention to a few little points in the regulation of the diet will accomplish much in constipation. Coarse brown or bran bread, oatmeal cakes, or porridge, often prove efficacious, and figs, prunes, or ripe fruit, may be taken with benefit. An orange or two eaten before breakfast is a pleasant and often effectual way of overcoming moderate habitual constipation, and sometimes, indeed, this simple plan will cure the more obstinate forms. A glass of cold water before breakfast, and an orange or two soon after, is another excellent mode of treatment. With many people coffee acts as a slight purgative, and where the patient has been accustomed to take tea at breakfast it may be substituted with advantage. Bacon, either broiled and eaten hot, or boiled and eaten cold, at breakfast, is a useful auxiliary in regulating the bowels. It often happens that people who are bilious and quite unable to take rich dishes, eat bacon not only without unpleasant consequences, but with decided advantage. Of drinks, beer and cider are the best suited to constipated habits.

It is not always easy to avoid going beyond or falling short of our aim. To produce diarrhœa is not to cure constipation, and is only substituting one disease for another. It is a good plan in cases where the walls of the abdomen are relaxed to give them artificial support. Wearing a broad bandage firmly applied round the body often proves of service, especially in women. Change of scene, to those who suffer from habitual constipation, has often a marked salutary effect. Exercise must also be considered as a mode of treatment.

So far we have said nothing on the subject of drugs, but if the above measures prove inoperative they will have to be resorted to. A few drops of tincture of colocynth, taken several times a day, may be used with advantage. It is especially indicated when the constipation has given rise to griping. The tincture of colocynth to which we have referred is officinal in the Prussian but not in the English Pharmacopœia.

A drop of tincture of *nux vomica* taken four or five times a day, or a tea-spoonful of the mixture (Pr. 44) is very useful in some forms of habitual constipation. As our knowledge of the action of *nux vomica* in its relation to constipation is at present imperfect, the results appear to be capricious. It is as well, therefore, not to be too sanguine of success, for in some cases it answers beyond all expectation, while in other apparently similar cases it completely fails. It is usually found of most service when the habitual constipation is accompanied by frequent ineffectual efforts, and when there is morning headache. It is said to be especially useful when the complaint is associated with indigestion resulting from the excessive use of alcohol, tobacco,

or coffee. It is also recommended for persons who take too little exercise, and for students and literary men.

Trousseau, the eminent French physician, recommended the use of belladonna in constipation. In one of his lectures he says: "I give it in the form of pills, each pill containing a centigramme (equal to about $\frac{1}{10}$ of a grain) and as much of the powder of belladonna; one of these pills is taken daily, fasting, by preference in the morning on an empty stomach rather than in the evening; the number of pills may be increased from one daily to two daily within the first five or six days: they ought seldom to exceed four or five in the course of the twenty-four hours. Whatever number of pills are taken they ought always to be taken at one time. As soon as the stools become regular, the belladonna must be discontinued, and the organs be allowed to act without assistance." Any intelligent chemist would be able to make these pills. It has been found by English medical men that this treatment is useful in all forms of constipation co-existing with indigestion, characterised by a thinly-furred tongue, pain at the pit of the stomach, especially after food, and more or less headache. It ensures a natural evacuation daily, and must be continued for a fortnight or three weeks. Trousseau, whilst recommending this treatment, adds: "By calling to mind the similarity of the properties of belladonna and tobacco, you will see how it is that many men cannot go to stool unless they smoke a pipe or cigar immediately after a meal. Although, at least in our country, it is not considered very proper for women to smoke, I almost every week advise ladies to try the effect of smoking a tobacco cigarette, to aid in overcoming constipation which had proved inveterate under every hygienic treatment."

In many cases of constipation dependent on torpidity of the bowels relief may be obtained by taking one grain. of powdered ipecacuanha every morning while fasting. The same treatment will remove the indigestion frequently associated with constipation, and characterised by depression of spirits, flatulence, coldness of the extremities, and the food lying like a weight on the stomach. Sulphur taken in the form of the confection (Pr. 59) is very useful, especially when the patient also suffers from piles or skin diseases. Senna may do well, particularly if given with gentian or some other bitter tonic (Pr. 16). Aloes in many cases prove highly useful, especially when given in the form of the dinner pill (Pr. 65).

In the treatment of the constipation of old people, drop or half-drop doses of tincture of opium (laudanum), given every quarter of an hour for the first hour, and then hourly for three hours, have been recommended. It must be remembered, however, that daily evacuation, which is the rule in youth and middle life, is often an excess in advanced years, when a motion three or four times a week usually proves ample. Old people often trouble themselves needlessly on this point. Laudanum is especially indicated when there is complete torpor of the bowels, when the motions are hard and lumpy, and there is headache, drowsiness, or dizziness.

In habitual constipation it is often necessary to resort to the use of some of the natural waters, such as those of Carlsbad. The imported Carlsbad water acts well. It should be warmed to a temperature of from 100° to 110°. The patient should begin with three tumblersful, and gradually increase the number to four, five, or six, according to the action. It should be taken before breakfast. It

usually causes pulpy slimy stools of dark colour and offensive odour. They are generally frequently repeated, and the quantity is often so great that the patient expresses his astonishment, and often wonders where it all comes from. The treatment will have to be continued for three weeks or a month. In some people it produces very little purgative action. The beneficial effects are more marked when dietary is adopted similar to that enjoined at Carlsbad. The Pullna or Friedrichshall waters are often used with advantage in constipation.

In many cases the use of an enema or injection proves of the greatest service. Unirritating in its operation, and acting directly on the seat of obstruction, an injection is far preferable to the administration of strong drugs, which derange the whole alimentary track and excite violent action, only in many cases to induce a state of greater debility and torpor than existed in it before. It matters little of what the injection is composed—either hot or cold water or gruel or starch may be conveniently used.

CONSUMPTION.

Consumption, or phthisis, as it is technically called, is an affection of the lungs accompanied by general wasting. There is no doubt that consumption is hereditary, though probably not to the extent that is commonly supposed. It does not follow of necessity that because a person comes of a consumptive stock he will suffer from that affection. By some authorities it is considered that the disease itself is transmitted, whilst others think that it is only a general weakness or constitutional debility that is hereditary.

Most cases of consumption occur between the ages of twenty and thirty. The disease is not often observed in early childhood or in old age, but it may come on at any period of life. It occurs with nearly equal frequency in men and women.

People whose general health is below par are the most likely to become the subjects of consumption. Those who have a consumptive tendency should scrupulously avoid anything at all likely to weaken them. Nevertheless, cases commencing with spitting of blood may originate in those whose health is a model of excellence.

There are certain occupations which predispose to the occurrence of consumption. It is common amongst stonemasons, grinders and polishers of steel, dressers of flax and feathers, straw plaiters, iron and coal miners, tailors and sempstresses. In many of these the inhalation of foreign particles into the lungs sets up irritation, which proves injurious and deteriorates the constitution; in others the result is occasioned by the combined operation of sedentary employment, impure air, exhaustive work, and bad food. On the other hand, cooks, butchers, tanners, tallow-chandlers, and soap-boilers, enjoy to a great extent an immunity from this terrible scourge. They get good wages, and as a concomitant have plenty to eat and drink, whilst the constant contact with oil and fat is probably not without its influence. A consideration of these facts may in some instances be of service in deciding on the choice of an occupation. Sedentary habits and want of exercise, intemperance in any shape or form, excessive indulgence and debauchery of all kinds, powerfully influence the development of phthisis, especially in the young.

Imperfect digestion, and the resulting mal-nutrition, favour the occurrence of the disease. It is probable that a bad set of teeth, by preventing the proper mastication of food, is not without its influence. Some doctors lay great stress on a deficiency of fat in the system, as a cause of consumption. It is an undoubted fact that most consumptives have a great dislike to fat, and will not eat it unless absolutely made to do so.

Want of proper ventilation and fresh air undoubtedly tend to produce this disease, hence its frequency amongst those whose occupations compel them to remain shut up in the same room for many hours at a time. It is of common occurrence in ill-ventilated institutions where many people are gathered together. For the maintenance of health a liberal supply of pure fresh air is essential.

It has always been a disputed point whether the practice of wearing stays favours the development of consumption, but the weight of evidence goes to show that it has no such tendency.

It is an undoubted fact that consumption is more frequent in temperate climates than in very cold or very warm ones. It is by no means common in Russia and Canada, notwithstanding the long continued cold, nor is it prevalent among the nations of the tropics. Some favoured spots are stated to be free from phthisis, for example, the islands of Lewis and Mull among the western isles of Scotland. In Ireland too the disease appears to be singularly rare. Probably the most antagonistic influence to the existence of consumption is exercised by the climatic conditions of extreme altitudes. We are told that in localities in the Andes, 7,000 feet and upwards above the sea-level, where the air is dry, the temperature about 60° in the shade, and the sky sunny throughout the greater part of the year, consumption of the lungs is known only as an exotic.

There is strong evidence to show that humidity of the air exerts a powerful influence in the production of consumption. It is undoubtedly common in Holland and other countries liable to damp fogs and an atmosphere saturated with moisture. In many towns in England the death-rate from consumption is in inverse proportion to the dryness of the site. By many it is considered that a judicious system of sub-soil drainage would in time almost stamp out our national malady.

Severe mental depression, as from anxiety, grief, or over-study, seems to have considerable influence in some cases. Phthisis is by no means uncommon among the inmates of lunatic asylums.

Phthisis may follow other diseases, such as measles, and typhus or typhoid fever, scarlatina, and repeated attacks of bronchitis. In some instances it is probably set up by over-suckling. On the other hand anæmic girls rarely suffer from it, though they are often supposed to be consumptive. The poorness of blood appears to have a kind of protective influence.

In former days it was supposed that consumption was contagious or infectious, but this is an exploded idea. At the same time a phthisical patient should not be allowed to occupy the same bed as a healthy person. A widow or widower whose partner may have died of consumption is not more likely than any one else to suffer from it.

The general symptoms of consumption are cough, expectoration, spitting of blood, shortness of breath, night-sweatings, and general wasting. Some or all of these are

usually present ; there are other symptoms which are of occasional occurrence, and will be considered in due course.

Cough is usually one of the earliest symptoms of consumption, and is that which commonly first attracts the attention, and awakens the fears of the patient or his friends. Usually, to begin with, it is slight, occasional, and only occurs on getting out of bed in the morning or making any unusual exertion in the course of the day. Sometimes it will cease for a while, as in the warm weather of summer, and return in winter, or on the approach of cold weather. After a time it begins to be troublesome at night, and is attended with more or less expectoration of mucus. The gradual onset of a cough in this way is in itself a suspicious circumstance ; it may mean nothing, probably does mean nothing, but still, as a matter of precaution, we should advise you to go to a doctor and get your chest examined. It is very likely it is all stomach, but if there is any doubt there is nothing like being on the safe side. In chest complaints it is of vital importance to begin treatment at the earliest possible moment.

The expectoration in phthisis varies greatly both in quantity and character. Some patients enquire most anxiously of the doctor if he is quite sure that what they are spitting up contains no pus. This is a matter of little importance, for the presence or absence of pus in the sputa affords no test at all of the presence or absence of consumption.

Spitting of blood is observed to a greater or less degree in the majority of cases of phthisis, varying, however, considerably as regards the amount and the frequency of its occurrence. The bleeding is frequently, but not of necessity, brought on by an attack of coughing. When the blood occurs in mere streaks, or in quantities less than a tea-spoonful, it probably means nothing, and is of little consequence. People are often greatly and unnecessarily alarmed by expectorating a small quantity of blood that could under no circumstances be of the slightest moment. In any case in which more than a tea-spoonful of blood is spat up, you should consult your doctor. Moreover, even when the quantity is smaller, and you feel anxious or not quite easy about it, you had better obtain medical advice.

Shortness of breath, although generally present to a greater or less extent, is not a very important sign of phthisis. Many people—anæmic girls especially—readily get out of breath on exertion, and yet their lungs may be perfectly healthy.

Night-sweating is often a most distressing symptom, and is especially injurious by disturbing the rest and exhausting the strength. It seldom comes on in the day-time, but the patient awakes in the middle of the night sweating profusely, and perhaps drenched in perspiration. Sometimes the quantity is so great that it wets not only the flannel and night-shirt, but even the sheets.

Wasting is a symptom of very frequent occurrence. If a person loses a few pounds, then regains it, then loses it again, and so on, it is of very little importance ; but when there is progressive emaciation, it is a serious sign. It is often one of the earliest, as it is one of the most alarming symptoms the patient presents. If a person without any apparent cause grows thin and weak, and gets no better from rest and change of air, he should consult his doctor, especially if there is any cough.

In consumption there is always fever : the temperature is distinctly elevated.

If you take your temperature morning and night on several consecutive days, and find that it is never above 99°, you may be pretty sure that you are not consumptive, or at all events that there is no active mischief going on in your chest. Taking the temperature is one of the best methods of proving the absence of consumption. The pulse is usually quickened in proportion to the elevation of temperature. If your natural pulse is, say, 70, and you find it continually above 90, and there is nothing that you know of to account for it, it is a suspicious sign. If, on the other hand, your pulse, especially at night, is normal in frequency, there is probably no fever.

Pain about the chest is sometimes met with in phthisis, but it is by no means of constant occurrence. It is usually a dull, aching pain that is complained of, and it is often referred to the region just under one or other of the collar-bones. When the pain is a sharp "stitch in the side," there is probably a little pleurisy just at that spot. A little localised inflammation of the pleura or covering of the lung often occurs in the course of phthisis, but it is of no great moment, and with appropriate treatment usually passes away in a day or two.

Diarrhœa is not of unfrequent occurrence in consumption, but it is not usually an early symptom. It is essential that it should be checked as soon as possible.

Loss of hair is a common symptom of phthisis. Women often tell you that their hair comes off in handfuls. It must not be supposed that this symptom by itself is of the slightest value—other and more decided signs of the malady are always present. We recently had a patient under our care with lung mischief who in a few weeks lost an abundant crop of hair that had for years grown on his chest.

Absence of the catamenia is another symptom often met with, especially in advanced cases.

A clubbed or thickened condition of the finger-nails is also common. It is worth looking for, for it is a favourable sign, indicating that the progress of the disease has been and is likely to be slow.

A red line along the margin of the gums where they meet the teeth is not unfrequently seen.

Such, then, are the symptoms of phthisis. If you suspect, or have any reason to suspect, that there is anything wrong with your chest, go to a doctor. If there is nothing the matter, it will remove a harassing doubt and a feeling of uneasiness that might in itself in time prove prejudicial to your health. You must remember that the doctor will have to examine your chest, and you must of course be prepared for that. He can do you no good unless you let him go thoroughly into your case.

Is consumption curable? Undoubtedly, in many cases. In days gone by it was laid down as a law by learned pundits that any medico professing to cure consumption was a charlatan. Thank God! those times have passed away, and we no longer regard consumption with the same hopeless horror we used to. A person may be consumptive, and live on for ten, twenty, or thirty years, or even longer. Cases of arrested consumption are now-a-days by no means uncommon. Modern treatment will save a life that a few years ago must have been sacrificed.

A few words, then, respecting the treatment of consumption. If there is much fever, the temperature being, say, 103° or 104° every night, begin with the effervescing

ammonia mixture (Pr. 99); two table-spoonfuls are to be taken every four hours during effervescence. The addition of five drops of antimony wine to each dose is advantageous. The chest and back should be painted with iodine liniment, which is not to be rubbed on, but applied with a small brush. If you know that only one lung is affected, the application should be confined to that side. If it is only the apex or upper part of the lung that is damaged, the paint should be put on above and below the collar-bone, and over the shoulder-blade only. It must be remembered that the iodine liniment is a strong preparation, and that if you put it on too thickly it will bring all the skin off. It ought to cause a fair amount of pain and smarting, or it will do no good. For children and young people, the weaker tincture of iodine may be used, but it is not so valuable a remedy. As soon as one coat of iodine clears off—and it will disappear in a few days—put on another. The effervescing ammonia mixture will have to be taken for a week or ten days, and then the temperature will probably be lower. You must then take cod-liver oil. The dose to begin with is a tea-spoonful three times a day. It may be given alone or in milk, or weak brandy-and-water, or orange wine, or coffee, or anything you like best. The great thing is to float it on the top of the liquid, so that it does not touch the sides of the glass, and then you can toss it off without tasting it. Many people can take it on the gentian and soda mixture (Pr. 14), when they cannot take it in any other way. It does not matter much how you take it, but take it you must. It should always be given soon after meals, and never before, or it will spoil the appetite. In addition to the cod-liver oil, a table-spoonful of the following mixture should be taken twice a day:—

Take of Hypophosphite of lime, thirty-two grains.

Syrup, one ounce.

Water, seven ounces.

Make a mixture. Dose, a table-spoonful twice a day.

This should be taken quite by itself, and not at the same time as the cod-liver oil. If the cough is troublesome, and especially if it is a short, dry, and hacking cough, take a tea-spoonful of the morphia linctus (Pr. 56) occasionally. Other remedies for cough will be found under that heading (*see* COUGH); but we think you will have no reason to be dissatisfied with the one we have recommended. If there is much night-sweating take one or two of the oxide of zinc pills (Pr. 66) at bed-time. Should they fail to afford relief, you may after three or four nights substitute ten grains of compound ipecacuanha powder, which will probably prove successful. There are many other remedies for the night-sweating of phthisis, and they will be found enumerated in their proper place. (*See* NIGHT-SWEATING.) Should there be any bleeding, turn to the article on blood-spitting (p. 141), and you will see what to do. For diarrhoea, a mixture of equal parts of decoction of logwood and chalk mixture usually proves successful. The dose is two or three table-spoonfuls every four hours. In obstinate cases, large doses of carbonate of bismuth often succeed admirably. From thirty to sixty grains may be given at a single dose, suspended in milk. Sometimes a number of remedies will have to be employed before the diarrhoea can be stopped. The article on that subject should be consulted. (*See* DIARRHOEA.) Should there be any pain under the collar-bones, or a stitch in the

side, the application of the iodine paint will do as much good as anything. It is an excellent remedy, and ranks high in the treatment of consumption.

A blister, too, is useful. One may be placed under each collar-bone. They should not be larger than a two-shilling piece, and should be kept on for from seven to eight hours. The blister need not be cut, but should be covered with a layer of cotton-wool. The fluid in the blister will be partly re-absorbed, and by not cutting the bleb you prevent the access of air to the raw skin beneath. These small blisters are not at all painful, and in fact many people say they hurt less than a coat of iodine.

The use of the cod-liver oil and the hypophosphite of lime mixture will have to be continued for many months—in fact, till the prominent symptoms have entirely disappeared. The dose of the cod-liver oil may gradually be increased from a tea-spoonful to a table-spoonful; but beyond this it is seldom necessary to go. The hypophosphite may be occasionally omitted for a day or two, and it should not be taken when there is any spitting of blood. Sometimes it is advantageous to take the hypophosphite in the form of "Churchill's Syrup of Hypophosphites," a preparation kept by most chemists. Directions as to dose, &c., are given on the bottles. We are told that no other medicine is to be used whilst taking the syrup, and that cod-liver oil and alcoholic stimulants are to be discarded, but this rule need not be observed.

Arsenic is a good remedy in consumption, especially in chronic cases. A dose of the arsenic mixture (Pr. 40) should be taken four times a day, shortly before meals. It may have to be continued for some weeks, or even months, and it may be some time before any improvement becomes manifest. Should it cause sickness or diarrhœa, its use should be suspended for a few days, and then, when resumed, it should be taken after meals. In some cases it is necessary to reduce the dose or frequency of administration for a time. Many chemists keep little arsenic granules, each containing a dose nearly equivalent to two drops of liquor arsenicalis. They are quite white, not much bigger than a pin's head, and are put up in glass corked bottles, each containing some two or three dozen. They are of French manufacture, and can be obtained through any of the leading London chemists. They are more convenient to take than the arsenic mixture, for the bottle can readily be carried about in the waistcoat pocket.

When cod-liver oil cannot be taken, or the repugnance to it cannot be overcome, pancreatic emulsion will be found useful. One or two tea-spoonfuls should be taken in a tumblerful of milk, with a table-spoonful of brandy, twice a day, half-an-hour after meals.

A remedy called Chaulmoogra oil has been recently introduced as a remedy for consumption. It is expressed from the seeds of a tree known as *Cynocardia odorata*, and is said to have been known for years to the Fakirs of India. The dose is from two to twelve drops in a little cod-liver oil, two or three times a day. We find that most patients can take this dose without difficulty. The oil is semi-solid at the ordinary temperature of the atmosphere, but soon liquefies if held in the hand or placed in tepid water for a few minutes. It can be obtained in London without difficulty, and is often sold in capsules which effectually disguise its

somewhat nauseous taste. When not readily taken internally it may be well rubbed into the chest and back before the fire every night and morning. In this way about two ounces will be consumed in the course of the week. The oil can do no harm, and is well worth trying when the patient is making no progress, and other remedies have failed.

The diet of the consumptive should be simple and nutritious; very strict rules as to special articles of diet are uncalled for, unless the stomach should have exhibited signs of imperfect power. Meat should be taken once or twice a day, with a good allowance of fat. Fish is nutritious, especially oysters. Milk is very nourishing, and two or three pints may be taken in the course of the day. At the Hospital for Consumption at Brompton many of the patients have a glass of rum and milk the first thing in the morning before breakfast, to help them to dress, and undoubtedly it often does good. Asses' milk may be taken when ordinary milk disagrees. Another favourite prescription is fat bacon for breakfast. Sugar is very fattening, and there is no objection to taking it, even in considerable quantities. A moderate allowance of wine or spirits is advisable; but it should be taken with caution when it flushes the face or quickens the pulse.

Raw meat is very useful in consumption, especially when the appetite is bad, or the digestive powers are failing. It sounds very nasty, but is not so in reality. What you have to do is this:—You get about half a pound of rump-steak—it must be quite fresh—and then cut away the fat and gristle and tendon, if there should be any. Then you get the pudding-board and a sharp knife, and scrape the meat into a pulp. It is rather hard work, and makes your arms ache, but you must not mind that. As you scrape off the meat you will look out for the little white pieces of tendon, and carefully remove them. It is very nasty if it is stringy. Now put your pulp into a mortar, and bruise it well for a few minutes. Next spread it out between pieces of bread-and-butter, and let your patient eat it as a sandwich. It is more palatable if you add a little pepper and salt. Some people like a little butter with it; it removes to some extent the nasty red colour, but it rather increases the difficulty of digestion. The addition of a little mace and allspice is a decided improvement. It is an advantage, too, to vary the flavour from time to time. When the patient cannot take it in the form of sandwich, it may be mixed up with soup and taken that way.

Moderate and frequent exercise in the open air is essential. An old writer says:—"Bark is no surer cure for ague than riding is for phthisis." This is not literally true, but still the opinion is worth quoting. Walking is capital exercise, and swinging on a horizontal bar is frequently beneficial. Gentle gymnastic exercise—the so-called musical gymnastics more particularly—and the use of light dumb-bells, do much to expand the chest and strengthen the lungs. So, too, does the practice of taking deep inspirations, of reading aloud, and of moderate singing. For those who are rapidly exhausted, and too weak to get about much, passive exercise in a carriage or boat must be enjoined. In summer, sitting or lying well supported in a boat pulled on a Highland lake—while for occupation reading mixed with a little fishing, and the conversation of a pleasant companion, the varying tints and outlines of the landscape also serving occasionally to occupy the attention—is perhaps the most salubrious

kind of exercise for the not over-weakened invalid. Even when it is impossible to get right away from home, there is no occasion to stay in-doors. Anthony Trollope says, in one of his novels:—"Most of us have recognised the fact that a dram of spirits will create—that a so-called nip of brandy will create—hilarity, or at least alacrity, and that a glass of sherry will often 'pick up' and set in order the prostrate animal and mental faculties of the drinker. But we are not sufficiently alive to the fact that copious draughts of fresh air—of air fresh and unaccustomed—will have precisely the same effect. We do know that now and again it is very essential to 'change the air;' but we consider that to do that with any chance of advantage it is necessary to go far afield; and we think also that such change of the air is only needful when sickness of the body has come upon us, or when it threatens to come. We are seldom aware that we may imbibe long potations of pleasure and healthy excitement without perhaps going out of our own country; that such potations are within a day's journey of most of us, and that they are to be had for half-a-crown a head, all told." When nothing else can be done, sitting out in the open air should always be insisted on—in a garden, on a balcony, or even at an open window. Anything is better than remaining shut up in the same room from morning to night. Of course, in taking exercise a certain amount of discretion is necessary. We heard of a man who, on being told that riding was beneficial, hired a horse and galloped about till he was so exhausted that he did not recover for a fortnight. Exercise should be carried to a point short of producing fatigue.

The bath—tepid or warm in cold weather, cool in the summer—should be used daily, or at least twice a week, and should be followed by free friction of the skin. Flannel—both vest and drawers—should be worn, but several layers of such covering, often seen, especially among the lower orders, are useless. The neck and chest should always be covered, and the growth of the beard and moustache in men encouraged. Women should avoid low-necked dresses, and should always be prepared with a shawl or cloud to throw over the shoulders even in going from one room to another through an exposed lobby.

In ordinary cases of consumption there is not the slightest occasion for the patient to keep his room, but still it is very important that the sleeping apartment should be properly ventilated. The great thing is to get as much pure air as possible consistent with warmth and the absence of draughts. There should be no curtains round the bed, an open fire should burn in the room during the winter, and the bed should be placed in a position free from the direct draught between the fire and the door or window. Only a moderate temperature should be permitted, so that when in bed the patient does not feel cold. In summer, good ventilation should be secured by letting down the windows for an inch or so at the top. At the Hospital for Consumption at Brompton the wards and galleries are kept, winter and summer, at a uniform temperature of a little over 60°. The policy of this system is open to question; and in the opinion of many competent judges the patients would do better if the temperature were considerably reduced.

The climatic treatment of consumption is a subject of the utmost importance. Each case must be decided on its own merits, and we can do little more than lay down a few general principles. In selecting a suitable climate the chief points to be

observed are that it is not liable to either extreme of temperature; that the air is pure and not too moist; that the soil is healthy; and that there is no likelihood of sudden changes, exposure to cold winds, or continued unfavourable weather. It is always well, also, to choose a place rendered attractive by bright sunshine, pretty scenery, and pleasant company. One most important object in selecting a climate is that the patient may be enabled to be out in the open air as much as possible. The principal sea-side places in this country suitable for consumptives are the Isle of Wight, especially Ventnor, Bournemouth, Torquay, Hastings, St. Leonard's, Penzance, Worthing, Sidmouth, Southport, Clevedon, and Sebay. In all of these the temperature is moderate and the moisture considerable. Abroad, there are Mentone, Nice, San Remo, Palermo, Cannes, Malaga, Malta, and Algiers, in all of which there is a high temperature with but little moisture. In Madeira, the West Indies, and the Azores, both temperature and moisture are considerable. In many cases nothing proves more beneficial than the three months' voyage to Australia by the Cape of Good Hope, commencing about the end of October. The climate is all that could be wished for, the trade winds assist the vessel forward, the sea breeze is invigorating, and life on deck is all that could be desired. Many persons very ill on starting lose all their symptoms before landing at Sydney or Melbourne. Sultry heat on shore must be avoided; in summer it becomes necessary to visit the neighbouring mountains or Tasmania, in order to avoid the enervating effect of the extreme heat. The return voyage should be carefully considered, and the winter at Cape Horn especially avoided.

For the slight cough which often remains for years after consumption is practically cured the following receipt will be found useful:—

Linseed Jelly.—Half a pound of linseed (the brown seed) to three pints of cold water. Let it simmer (not boil) for two hours, then strain, or rather squeeze through muslin. When cold it will be in a jelly mass. Sweeten and flavour to taste. A breakfast-cup of the jelly once a day, or oftener if necessary, with the juice of one lemon in it.

This is not only soothing but strengthening; and the same may be said of the following:

Egg and Milk Mixture.—Beat up the yolk of an egg, add the juice of one lemon, and then sugar to taste. Mix well before adding the milk, or curdling takes place. Add milk to the egg and lemon in quantity sufficient nearly to fill a breakfast-cup. This may be taken every day at 11 a.m.

CORNS.

Corns, as everybody knows, occur most frequently on the feet, where they are usually due to the irritation of badly-fitting boots. The boots may be either too small, and compress the feet, or they may be too large, so that they chafe and irritate them in walking. When corns occur on the under surface of the foot, they are due to friction against the sole of the boot, but when they make their appearance on the upper surface, it is, of course, the upper leather which is at fault. High heels, by throwing the weight of the body unduly on the toes, are a fruitful source of corns;

and so are patent-leather boots, which hinder the escape of the perspiration. In a smaller degree, tight socks and stockings favour the formation of corns by crowding the toes together and preventing their even spread in walking.

Corns, however, are not always confined to the feet. In tailors and seamstresses they may be found on the palm of the hand and on the knuckles, and are then due to the friction of the thimble. Occasionally in people who play the harp or violoncello they occur on the tips of the fingers or on the thumb. It is said that in those who do much writing they may arise from the friction of the pen. Certain occupations, such as the miner's, may excite their growth on the prominences of the knees and elbows.

There can be no doubt that in some cases a predisposition to the formation of corns is hereditary. We have heard people say that one or more of their children were born with a corn, and we see no reason for doubting the truth of the statement.

Corns may be roughly divided into hard corns and soft corns. Soft corns occur generally between the toes, their most common situation being on one side of the fourth toe. They probably arise from the friction of the toe against its neighbour, and they are kept constantly moist by the secretion of the foot, which in this situation escapes with difficulty. They differ from hard corns in being more sensitive, and in the rapidity of their growth. Their rapid formation is due to the warmth and moisture of the foot. There is a special form of warty corn which occurs only on the sole of the foot. It is usually of small size, and round in shape. It is extremely sensitive to the touch, and may become the source of the greatest possible pain and inconvenience to the sufferer, preventing his walking, and, in fact, completely crippling him.

The pain of a corn is usually most severe in damp weather. It is not uncommon to hear people say, "I know it is going to rain, my corns shoot so." As a rule, they cause most inconvenience in the spring. Sometimes corns become inflamed and matter forms beneath them, giving rise to intense pain. Occasionally the matter makes its way into a neighbouring joint, causing all kinds of trouble.

There can be no doubt that in many cases curvature of the spine has been caused by a corn. The sufferer has been for years in the habit of throwing the weight of the body in walking on one side, in order to relieve the pain of a corn on the opposite foot, and this has gradually given rise to bending of the spine.

The first thing to be done in the treatment of corns is to remove, as far as possible, the cause on which they are dependent. In the case of corns on the feet it is very essential to have well-fitting boots, and it may even be advisable to have them made of some other material than leather—as, for example, the invention rejoicing in the classical but ungrammatical name of *pannus corium*. We need hardly say that the feet should be rested as much as possible. An illness which confines a person to bed for some time often relieves him of his corns.

Anything that mechanically protects the corn from pressure proves advantageous. Little circular pieces of felt or leather punched with a hole in the middle, are often used for this purpose. If the corn seems inclined to bulge through the hole in the corn-plaster, it may be either pared down or covered with a piece of thin rag or diachylon plaster. In the case of soft corns, it is a good plan to surround the toe

with a thin layer of cotton-wool, which should be changed at least once a day. It is often useful to powder a soft corn with oxide of zinc before using the cotton-wool.

When these preliminaries have been arranged, the corns should be vigorously attacked. In the case of a hard corn, the feet should be well soaked in hot water, and then it should be carefully pared down with a knife, avoiding however making it bleed. The corn is then to be painted over two or three times a day with the arsenic solution (*liquor arsenicalis*) of the *Pharmacopœia*. This usually causes the gradual disappearance of the corn. Soft corns may nearly always be cured by painting them with the arsenic solution. They either dry up and disappear of themselves, or they undergo such a change that the shrivelled remains may be cut away without pain or inconvenience. The application is unattended with danger, but the solution should be distinctly labelled, and should be kept locked up, as if taken internally, except in very small doses, it is poisonous.

Some people prefer using, instead of the arsenic solution, a lotion made by adding thirty drops of the tincture of arnica to a wine-glass of water. It should be applied on a little piece of lint, and should be renewed twice or thrice daily.

COUGH.

When a man says he has "a cough," he generally means that he has a cold on his chest, or a slight attack of bronchitis. Directions for treating this complaint will be found on pages 158 and 160. One is very often asked what is the best cough medicine. This is a question by no means easy to answer. There are a great many different kinds of cough, and a mixture that acts like a charm in one may prove useless in another. Still, as the proposition is put before us, we must do our best to solve it. The following is a very good general cough mixture :—

Take of Paregoric elixir, 160 minims.
Chloric ether, 80 minims.
Oxymel of squill, four drachms.
Infusion of cascarrilla to eight ounces.

Make a mixture. Take two table-spoonfuls every four hours.

This will be found useful, and it generally succeeds admirably, although it is not a universal panacea.

When the cough is hard and dry, and there is no expectoration, the following mixture will do good :—

Take of Solution of hydrochlorate of morphia, 80 minims.
Dilute hydrocyanic acid, 24 minims.
Chloric ether, 80 minims.
Water to eight ounces.

Make a mixture. An eighth part every four hours.

It is to be used only for adults, and never when there is much difficulty in getting up the phlegm.

For a dry, hard, irritative cough, nothing does better than the morphia linctus (Pr. 56). It is to be taken in tea-spoonful doses, and only when the cough is troublesome. The Lozenge Pills (Pr. 69) are also very useful.

A cough, as we have seen, often means no more than a slight attack of bronchitis,

but it may occur as a symptom of some far more serious disease. Thus, cough is met with in consumption, in pleurisy, pneumonia, and many other chest affections. It may depend, too, upon an elongated uvula, or it may be a stomach cough, or it may be the result of nervousness, or even of mere habit.

Usually the treatment has to be directed to the general constitutional condition, and not to any one symptom. Nevertheless, it is very useful and even necessary to know what medicines are to be used in different kinds of cough. We have selected those most likely to be of service.

Aconite is useful quite at the commencement of a cough, when accompanied by fever. The indications for its employment are a dry, hard, recent cough, with restlessness, flushed face, headache, thirst, dryness of the throat, scanty urine, and confined bowels. It is not likely to do good unless the temperature of the body is distinctly elevated. Directions for its employment and mode of administration were given when speaking of **COLD** (p. 182).

Alum is often used in the form of spray for chronic coughs accompanied by hoarseness. The strength of the solution should be ten grains of the alum to an ounce of water.

Assafoetida does good in old chronic catarrhs, especially when accompanied by spasmodic cough and by occasional difficulty of breathing. A five-grain compound assafoetida pill may be taken three times a day.

Belladonna is useful in some kinds of cough, but it is difficult to say exactly what are the indications for its employment. It is thought to do most good when the cough is dry and accompanied by a sensation of tickling in the throat. A drachm of tincture of belladonna is to be added to an eight-ounce bottle of water, and of this a tea-spoonful may be taken every two hours, with an additional dose when the cough is very troublesome.

Chamomile oil is a valuable remedy for cough occurring in hysterical women. The dose is from four to six drops on sugar. The preparation must be of good quality, and should present its original green or blue tint.

Chloroform, used as an inhalation, is useful in many kinds of spasmodic cough. Ten drops should be dropped into the palm of the hand, and the vapour quietly inhaled.

Coltsfoot is a popular remedy for coughs of all kinds. It often does good, but we do not know what are to be regarded as indications for its employment.

Drosera has been highly recommended for dry spasmodic cough resulting in vomiting. By many it is used for cases of whooping-cough uncomplicated by bronchitis or other chest affections. The tincture is the best preparation, and only small doses must be used.

Gelseminum may be given when the cough is dry and irritating. It does best in exactly the same class of cases in which the morphia linctus proves useful. The full dose of the tincture is ten minims in water every three hours. It must be given frequently, as its effect is very evanescent. Giddiness, dimness of sight, double vision, and other similar symptoms, are to be regarded as indications for lessening the dose or decreasing the frequency of administration. Some people are much more susceptible to the action of this drug than are others.

Glycerine of tannin is a very useful application for cough resulting from a relaxed throat or elongated uvula. It should be used with a brush, the whole of the back of the throat being well swabbed out with it. This is a most valuable mode of treatment in the condition we have indicated.

Ipecacuanha enters into the composition of many of our cough mixtures. An ipecacuanha lozenge will often temporarily relieve a cough. The wine, given in drop doses in a tea-spoonful of water every hour or two hours, is a valuable remedy for a simple spasmodic cough, resembling whooping-cough, and accompanied by much retching and expectoration. In the cough of chronic bronchitis, nothing affords more speedy relief than the ipecacuanha spray (see p. 160).

Nitric acid is useful in coughs, but only in chronic coughs. It is suitable for patients who, from a long continuance of the cough, are in a state of general bad health. There is usually great lassitude and weakness, with loss of energy, a feeling of unfitness for exertion or work of any kind, and a state of unusual or abnormal tiredness. There is often mental depression, as the result of the physical weakness. The digestive organs also indicate a condition of depression; there is want of appetite, associated with a tongue which may be quite clean or slightly coated towards the back; a bad taste in the mouth in the morning, and after food a feeling of fulness or distension, often amounting to actual pain. There is generally a considerable loss of flesh, sleep at night is unrefreshing, and the bowels are constipated. The cough occurs chiefly during the day, and is nearly dry, what little expectoration there is being rather difficult to bring up. Sometimes the cough occurs almost entirely in the morning, on first waking or on getting out of bed. There is then a good deal of cough, with a considerable amount of expectoration of mucus. During the day there is nothing more than an occasional cough till the time of going to bed, when there is often a marked increase. In some forms of cough, occurring in middle-aged or elderly people, this remedy does much good. The symptoms are shortness of breath on exertion, and especially on going up-stairs; paroxysms of cough early in the morning, with considerable expectoration. Ipecacuanha spray is of value, but when the patient is generally out of health nitric acid may be used internally. It not only improves the general health, but also the condition of the chest symptoms. A nitric acid mixture may be made by putting a drachm of the dilute nitric acid of the British Pharmacopœia into an eight-ounce bottle of water. The dose in all these cases is two or three tea-spoonfuls three times a day.

Sulphur is used for obstinate dry cough, with tightness in the chest and retching, and also for loose cough, with expectoration of whitish-coloured phlegm.

Tartar emetic in small doses is very useful in many different kinds of cough. It is especially indicated when the expectoration is profuse, easily expelled, and mucous in character. The accompaniment of nausea or vomiting is to be regarded as an additional indication. A mixture may be made by adding a tea-spoonful of antimony wine to an eight-ounce bottle of water. The dose of this is two tea-spoonfuls every two or three hours.

Often enough a mustard poultice or the application of iodine to the chest will do more to relieve a cough than any medicine. As a rule, it will be found a good plan to abstain from beer as long as there is any cough. Mucilaginous drinks, such as gum-

water, barley-water, and linseed-tea, are very soothing, and often serve effectually to allay the troublesome tickling or irritability in the throat. When there is not much expectoration, an effort of the will often does much to restrain the violence of the cough. When there is anything to come up, the sooner it is up the better ; but in other cases it is a bad plan to give way to the cough.

DANDRIF. — (See BORAX, *Materia Medica.*)

DEBILITY.

The term debility is used—somewhat loosely, it must be admitted—to indicate a condition in which there is no actual disease, but in which all the functions of the body are performed, if not imperfectly, at all events with less than their accustomed vigour. The patient has no actual complaint; his heart, and lungs, and kidneys, and so on, are, as far as he knows, healthy, but still he feels that he is “below par” and that he is not “up to the mark.” This condition is a very common one, and is met with in all ranks and classes of society, from the hard-worked, half-starved general servant to the rich city banker with thousands and tens of thousands at his command. There is a general want of energy, a disinclination for work, and a disrelish for everything. The patient cannot point to any particular region and say, “This is the seat of my disease” but he feels “queer all over.” He knows he is ill, and yet cannot say exactly what ails him. Everything seems a trouble, a bother, and a nuisance ; not only is work performed with difficulty, but there is even a disrelish for amusement. Invitations are declined, and a dinner or party is regarded with absolute aversion. When one is “seedy” one almost hates the sight of one’s fellow men. The once companionable and jovial fellow becomes morose, and cares little for the society of even his most intimate friends. He goes home as soon as he can, and lies on the sofa, heavy, dull, and fretful, discontented with himself and all the world besides. Nothing interests him, nothing amuses him ; he is a misery to himself and to everybody else.

This condition is frightfully common, and may be induced by a variety of causes. It is frequently seen in school-girls ; and we don’t wonder at it, considering that now-a-days they are compelled to cram their heads with French, German, Italian, rhetoric, composition, the elements of astronomy, geology, geometry, chronology, and a host of things their grandmothers never even heard of. Boys do not suffer in the same way, although they work equally hard, because they get plenty of good, healthy out-door exercise. Debility often arises, not from over-work, but from dissipation. The young man of fortune who enters upon his worldly career full of health and strength, and runs a course of riotous living, spending his substance and himself like the “prodigal son,” soon finds himself in a state of profound debility, which, unless he will consent to turn over a new leaf and live more in accordance with the laws of health and the dictates of common sense, soon ends in serious organic disease. Young married people often suffer from debility, and have to learn that for the maintenance of health it is necessary to be moderate in affection as in everything else. Some people get debilitated as the result of over-work ; others as the result of under-work. To preserve the balance of health it is necessary for every one to do something : there must be an outgo as well as an income. Many people fail to

recognise the fact ; they are sufficiently well off pecuniarily to be independent of any business or profession, and they do not care to exert themselves. They fail to see the necessity for work, there is nothing to rouse them up or urge them on, and the result is that they do nothing. There are thousands of people in this world who are too lazy even to amuse themselves. They suffer from *ennui* and debility, and no medicine will ever cure them. The remedy is in their own hands. Really the best thing that could happen to them would be a temporary reverse of fortune. When they see a pressing necessity for exertion they respond to it, with manifest advantage to themselves. Many a man has been cured of his indolent habits and consequent debility by having to nurse a near and beloved relative through a long and dangerous illness.

It is difficult to lay down general rules for the treatment of debility, for it springs from so many different causes. It is obvious that a man who has been overworking himself wants rest, both mental and physical, whilst such a mode of treatment would prove anything but beneficial to him whose only complaint is want of occupation. There are, however, a few general principles which are applicable to all cases. In the first place, lowering treatment is inadmissible. It is a good plan to have the bowels regularly open, but anything like active and repeated purgation is to be sedulously avoided. In the case of a delicate young woman whose health has been lowered perhaps by too frequent pregnancies or by over-suckling, an extra hour or two in bed in the morning will do more good than a blue-pill. Do not forget that a fresh horse has more "go" in him than a tired one, and that, as an old writer says, "roses may be cultivated in beds." A bath should be taken every morning. If you are weak and pulled down, do not attempt a cold bath at first, but be content with a tepid one. Many people enjoy a cold bath in the summer, but find it too much for them during the colder months of the year. If you get the opportunity of having a swim or some sea-bathing, do not neglect it, for nothing can be more invigorating. The addition of sea-salt to the morning tub is undoubtedly beneficial. Out-door exercise should be taken every day when it is not absolutely raining. Even should you get wet it seldom does much harm, provided you walk briskly home and change your wet things at once. The duration of the exercise must be in proportion to the strength and previous habits. At first, a walk only of a few hundred yards may seem all too much, but in a few weeks six or eight miles may be done at a stretch, not only with impunity but with positive benefit. In all cases of debility a generous diet is absolutely necessary, for it is very difficult to regain strength if you are not living well. A fair allowance of stimulant is advisable, and it is best taken in the form of a good full-bodied port or nourishing stout. A glass or two of champagne at dinner, when there is much depression, is as good a medicine as we know. When there is much weakness, a glass of rum and milk may be taken in the morning before dressing. An hour or two's rest on the bed in the middle of the day, with an amusing book, is an excellent restorative. When there is anæmia it should be treated according to the rules we have already laid down (p. 92). Want of appetite and loathing of food is an indication for the administration of quinine (Pr. 9) ; or the gentian and acid (Pr. 15), or gentian and soda (Pr. 14) mixture may be given. Cod-liver oil is a most excellent remedy. Begin with a tea-spoonful three times a day, and gradually

increase the quantity to a table-spoonful, beyond which it is seldom necessary to go. In many cases pancreatic emulsion proves useful. The practice of anointing the body with oil is a very old one, and might be advantageously revived in cases of extreme debility, where the stomach refuses to tolerate cod-liver oil. Memory recalls the abundant use of unguents in ancient Judea. The Bible tells us of kings being anointed with sacred oil, of precious ointment running down Aaron's beard to the skirts of his clothing, and of Jesus having His feet covered with costly salve immediately after being washed. Cod-liver oil is unsuited for the purpose of inunctions; those who submit to it become repugnant to the nostrils of their friends, and the odour from the skin prevents the delicate stomach from assimilating or even retaining food. With the smell of fish-oil in the nose, everything seems to taste of it, so that rubbing with this substance usually proves a failure and has to be abandoned. Scented lard, pure salad or olive oil, or almond oil, may often be used with the greatest advantage. We have known many instances of the lives of children having been saved by rubbing in pure olive oil over the stomach. The inunction should be performed after a warm bath or before the fire. The hand alone should be used for the purpose, and care must be taken not to produce rawness or abrasion of the skin. The process need not be confined to the trunk, and the limbs should come in for their fair share. The frequency of repetition must to some extent be guided by the result, but twice a day to begin with is often enough. We may mention incidentally that this mode of treatment often proves most valuable in rheumatism and for stiff or contracted joints. For debility resulting from excessive brain work, phosphorus is by far the best remedy. It may be taken according to Prs. 53 and 54, or the hypophosphite of lime mixture (Pr. 55) may be given.

An important element in the treatment of debility is change—change of air, change of scene, and, above all, change of work. To the majority of us life is most frightfully monotonous. A perpetual round of duties has a depressing effect both on the body and mind. It wearies us day by day to see the same faces, view the same things, hear the same voices, smell the same odours, listen to and talk the same platitudes. After long experience at home, we know exactly how the tea will taste, how the sirloin of beef is likely to be served up, what probability there is of the mutton being tough or the steak underdone. We know, too, exactly what the wife will say when we come home, and the exact tone in which she will say it. When people live together day after day, month after month, and year after year, they find it very difficult to find subjects for profitable conversation. This monotony can best be combated by change of air; for with this comes variation of scene; with that arrives change of thought; and with that, again, start up new trains of ideas and expansion of mind. To go for change of air is, or ought to be, an expedition in quest of information and a search for something new. From it one returns with a fresh fund of anecdotes, a new collection of stories, a fuller *répertoire* of experiences, and an additional store of illustrations, which for months to come serve to brighten the dull realities of life. It is obvious that if the main object of change of air is to get over the results of monotony, Paterfamilias should not always travel with his wife and family.

In the majority of cases of simple debility it is not necessary to consult a doctor,

at all events, at first, and until you have tried what you can do for yourself. If you do go to a doctor, mind you get him to examine your urine, to make sure there is nothing wrong there. Bright's disease often comes on very insidiously, and in cases of great debility occurring in middle-aged people this must always be borne in mind.

Sometimes the term debility, or nervous debility, is used as synonymous with spermatorrhœa. The treatment of this complaint is as follows:—

(1) Sleep on a mattress, and not on a feather bed. Use but little covering in the way of bed-clothes at night: a sheet and one blanket must suffice, except in the coldest weather. Never remain more than seven hours in bed.

(2) Take a cold bath every morning, whether you like it or not. Live as plainly as possible. Avoid heavy suppers, and eat nothing for two hours before going to bed. Do not drink more than two glasses of beer a day. Do not take "grog" or spirits in any form. Do not smoke more than two pipes a day.

(3) Join the volunteers or a cricket-club, or go in for rowing, or foot-ball, or gymnastics. Do not stay in-doors more than you can help. Go into society as much as you can, and never refuse an invitation.

(4) If you have any books or pamphlets on the subject of your complaint, put them in the fire at once—*this is essential*. Purity of thought is an important element in treatment.

(5) Take two table-spoonfuls of the bromide of potassium mixture (Pr. 31) three times a day.

Follow these directions for a month, and you will be cured.

DELIRIUM TREMENS.

Delirium tremens, or "D T," as it is frequently called, is still, unfortunately, a common disease in this country. It may be described as an acute attack of poisoning by alcoholic drinks. Men are much more prone to this disorder than women, although, as we know, the gin-palace is not without its votaresses. At one time it was supposed that delirium tremens might be induced by abstinence from stimulants in those long accustomed to their use, but this is now an exploded idea, and it is an established fact that a man may at any time discontinue his habits of drinking without any risk of injuring his health. Individuals of an irritable, nervous system, who are subjected to any prolonged mental strain, may induce the disease by smaller quantities of alcohol than would be required to excite it under ordinary circumstances. It is said that, even in temperate persons, long continued mental anxiety,—that state of mind, for example, in which gamblers and great speculators habitually live—may cause it; and in fact it may arise from anything by which the mind is over-wrought.

The first symptom of delirium tremens is very commonly inability to sleep. The sufferer may have long indulged to excess in drink or he may be quite a novice in intemperance, but in any case a greater debauch than usual has preceded the outset of the attack. The patient finds himself quite unable to obtain any sleep, or at most can gain only short snatches of slumber, disturbed by horrible dreams and visions. Even during his waking moments and in broad daylight he suffers from hallucina-

tions of sight, which usually take the form of disgusting or terrifying objects, such as snakes, insects, or monsters. Sometimes he fancies he sees armed men pursuing him with threatening gestures. More rarely he hears voices denouncing threats or mocking him, and occasionally he thinks he smells disgusting odours. He manifests great impatience of any interference or assistance in his ordinary duties, which he discharges in a bustling and tremulous manner. Usually there are at first no real delusions; and even when there are hallucinations the patient frequently recognises them as such, and is able by an effort of the will to banish them. There is commonly a complete loss of appetite, and little or no food is taken. After a time, distinct delusions become apparent; the patient talks incessantly in a rambling fashion, and points to imaginary terrific shapes about him, which he is constantly seeking to push aside with a restless motion of his hands. The delirium is not a fierce or mischievous delirium, but a busy delirium: he does whatever he is told, but does it in a hurried way, with a sort of unsuccessful anxiety to perform it properly. He is not altogether inattentive to the objects and proceedings that are going on around him, but his mind soon wanders away to other subjects. Sometimes he is very suspicious that those about him intend to do him some injury, or he thinks that he is surrounded by enemies. He is haunted by spectra, fancies that rats, mice, and other vermin are running over his bed, or perhaps sees spiders crawling on the ceiling, or a horse's head thrust through the wall of the room. He addresses remarks to imaginary strangers, and looks suspiciously behind the curtains, under the impression that the devil is there waiting for him, or that there is somebody watching him. It is seldom that he meditates harm either to himself or others, and there is usually a mixture of cowardice or dread with the delirium. If you question him about his disease, he answers quite to the purpose, describes in an agitated manner his feelings, puts out his tongue, and does whatever you bid him; but a moment later he is wandering from the scene around him to one that exists only in his imagination. He gives orders to absent servants, refers to some imaginary appointment he must keep, or speaks of strange adventures he has met with during the night. The publican thinks that he is drawing beer for hosts of customers, and the lawyer that he is making an effective speech to the jury. The patient may be recalled by addressing him in a firm and determined manner, and may even be temporarily reasoned out of his delusions. The tremor which, from its striking prominence in many cases, has given the disease its name, is by no means universally present. It is usually observed in the case of confirmed dram-drinkers, but often enough it is only an exaggeration of a tremulousness of the hands, which has existed for months or even years. Even when the tremor is not present there is a constant restlessness; the patient shifts from side to side in bed, and will get out twenty times in an hour, if allowed to do so. The tremulous tongue is moist and creamy, the pulse is frequent, the eyes are in almost constant movement, and the pupils are usually, though by no means always, dilated. Very often the face is flushed, but sometimes it remains deadly pale. Usually there is much sweating, which is obviously due in great part to the constant muscular movements. Attacks of sickness are not uncommon, the bowels are confined, and pain may be complained of about the pit of the stomach.

In favourable cases, a critical sleep comes on about the beginning of the third or fourth day, and the patient slumbers heavily for twelve hours or more. From this he awakes fearfully weak, but free from delirium. Such is the rule; but, unfortunately, after many hours' profound sleep the patient sometimes awakes as delirious as ever, or in a state of complete prostration, which may terminate in death. The occurrence of sleep marks the commencement of convalescence only when, on awaking, the intellect is clear, the delusions and hallucinations have disappeared, and the pulse is reduced in frequency. The stage of convalescence once established, everything progresses favourably. But, unfortunately, in many cases there is no sleep at all; the wakefulness continues, and the case becomes critical.

Let us now discuss the treatment of delirium tremens. The patient should be at once put to bed in a quiet, darkened room—the less furniture the better—and everything should be avoided that could in any way excite his imagination. Friends and relatives often annoy him by their presence, and it is as well that they should be replaced by a good automatic attendant who will not talk. In cases in which the patient is both violent and of considerable strength, two trained nurses, with experience in the treatment of lunatics, should be in constant attendance. It is always most desirable to avoid the use of the straight-jacket, or even of bandages, for the purpose of restraint; and this may usually be done by a little tact and management.

It is of vital importance that the patient should be well supported by the frequent administration of food. He will not take mutton-chops, or anything of that kind, and it is useless trying to induce him to do so; but you may get him to swallow the whites of a dozen eggs with a little lemon-juice in it, or he may take whey of milk with lemon-juice, and, perhaps, just a dash of wine or brandy to flavour it. It is desirable that plenty of milk should be taken, or soup, or strong, hot broth with bread in it. The addition of plenty of Cayenne pepper to the soup or broth often proves beneficial to still the nervous excitement. The necessity for the administration of some nutriment is imperative; and if the stomach be at first too irritable, or the loss of appetite too complete, to allow of food being taken in the usual way, it must be given in the form of an injection. Even more depends on dietetic than on medicinal treatment. In young people no hesitation need be felt in completely cutting off stimulants, but in those who are old and feeble a small quantity of wine or brandy must be allowed.

It is a good thing to get the bowels open; two or three watery motions do good, but excessive purgation must of course be avoided. Three or four table-spoonfuls of the white mixture (Pr. 25) will generally be found to answer as well as anything.

With many people it is the custom to give very large doses of opium in delirium tremens, with the view of producing sleep; but the practice is by no means a safe one. If there is much restlessness at night there is no objection to the administration of two grains of opium in the form of two five-grain compound soap pills or thirty drops of laudanum in water. A hypodermic injection of morphia is preferable to giving opium by the mouth, as it does not interfere with the stomach.

Chloral is a most valuable agent in the treatment of delirium tremens. In ordinary cases it will suffice to give two tea-spoonfuls of the syrup of chloral at bed-

time, but when the symptoms are urgent it may be necessary to give a tea-spoonful every hour for three or four consecutive hours. It usually produces a calm and refreshing sleep.

Three table-spoonfuls of the bromide of potassium mixture (Pr. 31), given every two hours, will succeed, in a large number of cases, in calming the nervous agitation and producing a good sound sleep. As soon as the patient awakes the administration may be resumed to the extent of three or four doses more. These are large doses of bromide of potassium, but it is much safer to give them than to administer knock-down doses of opium. Bromide of potassium is especially serviceable in dispelling delusions remaining after the partial subdual of an attack.

Belladonna, in two-drop doses of the tincture every two hours, has been recommended. Sleep and a quiet night, with marked improvement the next day, are said to be the results.

Stramonium answers well in cases characterised by violent, noisy delirium and complete loss of sleep. A tea-spoonful of the tincture should be put in an eight-ounce bottle of water, and of this a tea-spoonful should be given every hour or every two hours.

It is important that the skin should act well, and benefit is often derived from the use of the wet pack. It has frequently a most soothing influence. In every case of delirium tremens a doctor should be called in.

DERBYSHIRE NECK, GOÎTRE, OR BRONCHOCELE.

By the terms Derbyshire neck, goître, or bronchocele, we mean hypertrophy, or enlargement of the large gland called the thyroid, which naturally exists on the front of the windpipe.

The circumstances which favour the production of this complaint have been frequently investigated, but the question is still to a great extent involved in obscurity. Goitre is essentially an endemic disease—that is, it prevails in certain localities, but scarcely occurs elsewhere. It has been frequently noticed that people who have gone to live in these districts have become affected with the complaint; whilst, on the other hand, persons who have migrated from the locality have been sometimes cured by the mere change in residence. Goitre abounds in the hollows and valleys of many mountainous districts, among the Alps, for example, and in the Pyrenees, and on this account it was supposed to be due to some peculiarity in the atmosphere. It was at one time said that the disease was always found and occurred only in deep, close, moist valleys, shut in by high mountains. On further investigation, this statement was found to be too general, and in fact there is now abundant evidence to show that the complaint occurs quite independently of atmospheric conditions.

It has been proved pretty conclusively that goitre has its origin in some impurity in the water, but of what that impurity consists is not precisely known. At one time—probably from its frequent occurrence in Alpine regions—the disease was ascribed to the use of snow-water. A very little consideration will serve to show that this explanation is insufficient, for the people in almost all the valleys of

Switzerland drink the water which comes from the glaciers, but in only a few of them is goitre prevalent. Then again, as we know, it occurs frequently in Derbyshire, where the snow never lasts long, and even in Sumatra, where snow is never seen. There are reasons for supposing that it is the presence of limestone in the water which produces these injurious effects. In some parts of England—Yorkshire, Derbyshire, Nottinghamshire, Hants, and Sussex—where the disease prevails, there is a ridge of magnesian limestone running from north to south throughout the entire district. On the other hand, there are many goitreous regions in which the water is not unusually hard. Of late years an attempt has been made—and we think unsuccessfully—to show that the constituent of water which is the actual cause of goitre is some salt of iron, or more rarely of copper. The prevalence of the disease in limestone regions is explained on this theory by supposing that the water has travelled the metalliferous strata of the rocks.

Goitre may be very rapidly produced. There are certain waters in Switzerland which would cause it even in eight or ten days, and cases have occurred in almost as short a time in other places. It is said that both in France and Italy the drinking of certain waters has been resorted to, and apparently with success, for the purpose of producing goitre, and thereby gaining exemption from military conscription.

Goitre occurs much more commonly in women than in men, the proportion being about twelve to one. At the same time, it must be remembered that our fashion of dress renders a small bronchocele much more noticeable and less easily concealed in females. It is probable that bad food and low living, by depressing the general health, conduce to the production of goitre. It is met with in all classes of society, but occurs most commonly amongst the very poor, who live in cellars and kitchens, or in damp, ill-ventilated streets and courts. As a rule, the complaint does not show itself in children younger than eight or ten; but it is occasionally seen in young people shut up in school-rooms or leading a sedentary life—as unnatural as it is prejudicial. It is said that the disease is hereditary; but it must be remembered that in the majority of cases the children are living under identically the same conditions as their parents. Every race of man is liable to bronchocele, and it occurs in all latitudes, from the Arctic regions to the tropics. Franklin found it amongst the inhabitants of the Polar regions, and Mungo Park amongst those of the interior of Africa.

A goitre may attain a very considerable size, but in many cases it causes merely a slight fulness of the throat, which by many people is thought to be not ungraceful. It may continue for years without reaching any extreme or very troublesome magnitude. In some cases it has remained stationary for a very considerable time, and has then suddenly, and without any apparent cause, increased rapidly in size. The swelling is usually larger during the menstrual periods, or when from any cause the health is temporarily deranged. Bronchocele is not in itself a painful disorder, nor does it taint the system or affect the constitution in any way. It is, as a rule, a perfectly innocent tumour, and presents no signs of malignancy. Any distress or inconvenience which it may occasion will be from its size, and the pressure it exerts on the windpipe, gullet, and neighbouring structures. Sometimes it obstructs the return of blood from the head, and gives rise to headache, giddiness, noises in the

ears, confusion of thought, and other disagreeable symptoms. When it presses on the windpipe it may cause hoarseness, wheezing, and shortness of breath.

There is one form of goitre which differs so strikingly from that of which we have already spoken that it requires a separate description. It is known as exophthalmic goitre, or sometimes as Graves' disease, after the doctor who first described it. It is characterised by the concurrence of three notable symptoms—palpitation, enlargement of the thyroid body, and prominence of the eyeballs. The last-mentioned symptom is so peculiar and striking as to at once arrest the attention. The eyes are pushed forwards, so that they look almost as if they were going to drop out of the head. In extreme cases they are bulged to such an extent that the lids cannot be closed even during sleep. This projection of the eyeballs gives the patient a remarkably wild and strange appearance. The pulsation is at all times persistent, but is increased by bodily exercise or mental exertion. It is not confined to the region of the heart, but is experienced more or less all over the body. The swelling on the front of the neck never attains any great size. These are the three symptoms which together may be said to constitute the complaint, but there are others which are more or less commonly observed. Thus, there is often a change in temper, which becomes capricious, irritable, and peevish. A disposition to flush under slight emotion, a tendency to bleeding from the nose, and a sense of heat, accompanied by profuse perspirations, are often experienced. The complaint usually occurs in young women, and most commonly in those who are suffering from some derangement of the uterine functions. Its production appears to be quite independent of any influence of soil or climate. Very many of the patients are found to be markedly anæmic.

Let us now consider the treatment of bronchocele. One very important point, which should be preliminary to all other modes of treatment, is the removal of the patient from the dangerous locality. When the patient has been removed to some more salubrious place of abode, we may administer our drugs and apply our lotions and ointments with greater hope of success. When this preparatory step is absolutely impossible, every drop of water should be boiled, or, what is still better, distilled. The best remedy for bronchocele is, in all probability, iodine—iodine inside and out. It is best given internally in the form of iodide of potassium. Two, four, or even six table-spoonfuls of the mixture (Pr. 32) should be taken three or four times a day. In addition, the swelling may be painted as often as it can be comfortably borne with the tincture of iodine, or the iodine ointment may be rubbed in freely. By this method of treatment the enlargement often very rapidly diminishes, and a considerable improvement is noticeable in the patient's general condition. In cases in which anæmia is present, it is very desirable to get rid of this complication, and iron should be administered without delay. *Prs.* 1, 2, and 63 will be found useful for a preparatory course of iron; but in some cases it may be advantageous to take the iron and iodine in combination, and then the syrup of iodide of iron (*Pr.* 4) should be preferred.

In India, an ointment of red iodide of mercury is largely used in the treatment of goitre. It is made as follows:—Melt three pounds of lard or mutton suet, strain and clean; when nearly cool, add nine drachms of finely-powdered red iodide of

mercury (obtainable from any chemist), and rub up in a mortar until no red grains are visible, and keep it in pots protected from the light. The ointment is applied to the swelling at sun-rise, and is well rubbed in for at least ten minutes. The patient then sits in the sun as long as he can endure it. In some six or eight hours there will probably be more or less pain from the blistering action of the application. About two in the afternoon the ointment is again well rubbed in with the hand. Some ointment is then left in contact with the swelling, and this becomes absorbed by about the third day. In ordinary cases one such course is usually found to effect a cure; but in bad cases it may be necessary to repeat the treatment after an interval of from six to twelve months. In England, the kitchen fire will probably have to be substituted for the rays of the sun. Very good results have been obtained by rubbing in the ointment night and morning, and afterwards covering it with oil-silk.

For many years spongia, or roasted sponge, has been used in the treatment of goitre. It contains both iodine and bromine, and it is probably to the presence of one or both of these bodies that its curative properties are due. It has, however, sometimes proved successful where iodine has failed. To be of service it must be given in small doses and frequently.

For exophthalmic goitre, tincture of belladonna is the best remedy. Its effects are often very striking. In one case, five tea-spoonfuls of the belladonna mixture (Pr. 39), taken hourly, afforded great relief in four or five days, although the disease had lasted more than a year, and in two months a cure was all but effected. Of course, in this, as in the other form, iron should be given when anæmia is a marked symptom.

Such, then, is the medical treatment of bronchocele. Should these remedies fail, it may, under certain circumstances, be necessary to resort to surgical interference. It may, however, be laid down as a rule that so long as the disease is merely a deformity—so long as it does not interfere with any of the important functions of the body, nor produce serious discomfort—does not distress the breathing by pressing upon the windpipe, nor interfere with swallowing by pressing upon the gullet, nor impede to any great extent the flow of blood to or from the head by pressing upon the great blood-vessels of the neck, nor grievously encumber the patient by its weight, a surgical operation is neither advisable nor justifiable.

We must now say a word or two on what is known as cretinism. By cretinism we mean a strange, melancholy disease, which has a curious and as yet but little understood connection with goitre. It is a kind of idiocy, accompanied by some deformity or affection of the bodily organs. The mental affection varies in degree from mere obtuseness of thought and purpose to complete obliteration of intelligence. Many cretins are incapable of articulate speech; some are blind, some deaf, and others labour under all these privations. They are usually dwarfish in stature, with large heads, wide vacant features, goggle eyes, short crooked limbs, flabby muscles, and retracted bellies. This disease occurs most commonly in goitreous districts. It is met with in the Pyrenees, in the Alps, in the mountains of Syria, in the hilly parts of China, and in the Himalaya regions. With few exceptions, cretins have bronchocele; but of course bronchocele is not always accompanied by cretinism. What is the

exciting cause of cretinism we do not know, but by many it and goitre are supposed to have a common origin. It has been shown experimentally that the permanent removal of the unfortunate cretin from the infected district, combined with judicious medical and moral discipline, will often ensure a perfect restoration to health and reason.

DIABETES.

This is a constitutional disease, characterised by the passing of large quantities of water. There are two kinds of diabetes—one in which the urine contains sugar, and another in which there is no sugar. The former is known as diabetes mellitus, and the latter as diabetes insipidus. They agree in the fact that in both there is an excessive secretion of urine, but they differ in so many important respects that they must be regarded as two totally different diseases, and we shall accordingly discuss them separately.

Diabetes Mellitus.—This is the commoner form, and the one which is usually meant when the term diabetes alone is used. If you are suffering from diabetes, and yet have no sugar in your urine, this is not your complaint. You must pass on to diabetes insipidus.

In the first place, we will describe the urine passed in diabetes mellitus, so that if you have any suspicion that you are suffering from this disease, you may compare the water you are passing with our description.

To begin with, there is a marked increase in the quantity secreted. If you were to collect all the urine passed by a healthy person in twenty-four hours, and were to measure it, you would find that it amounted to something between one and four pints. Of course, the quantity is subject to a little fluctuation, according to the quantity of drink taken and the amount of water given off by the skin and bowels; but on an average it is about fifty ounces, or two pints and a half. Now, in cases of diabetes the quantity is very much greater. It is usually somewhere between eight and fifteen pints, and in some cases it has been known to exceed thirty-two pints. This is an increase you could not possibly overlook; or at all events all you want to make quite sure is a common half-pint measure.

Then, again, urine containing sugar differs strikingly in many particulars from healthy urine. It is commonly of a light colour, and being so copious is usually free from any deposit. Its odour is somewhat peculiar, and is said by some to resemble sweet hay, and by others to be like the faint smell of an apple-chamber. Moreover, its taste is more or less decidedly sweet. If you just dip your finger into ordinary healthy urine, and put it to the tip of your tongue, you find that it is tasteless, or very nearly so; but if you do this to urine containing sugar, you, naturally enough, perceive that it is sweet. Sugar in the urine occasionally testifies its presence in other ways. Sometimes it undergoes a kind of rude crystallisation as the urine dries. A girl who suffered from this complaint observed that if her water were accidentally spilt upon her black stuff shoes every drop left a white powdery spot behind it. In another instance the patient was first alarmed by finding that her black worsted stockings were sticky and covered with a white dust, from the same cause. In still another case the patient's attention was first drawn to his urine by

the number of flies and wasps which its sweetness attracted to the chamber-pot. It is said that in India the red ants have been observed to swarm in the same way about a vessel containing diabetic urine.

The presence of sugar in the urine naturally increases its density. The urine of a person suffering from diabetes mellitus is heavier than the urine of a healthy person. If we take the specific gravity of healthy urine by means of a urinometer (*see URINE*) we find that it lies somewhere between 1,015 and 1,025, the specific gravity of water being 1,000. Now, if we take the specific gravity of the urine of a person suffering from diabetes mellitus, we find that it is very high. It ranges from 1,030 to 1,060, but is generally a little above or below 1,040. Do not try the specific gravity of your urine directly it is passed, but let it get cold first. The best way is to mix all the urine passed in twenty-four hours, and to examine a specimen of this. By this plan you get a good average result, for naturally the specific gravity of the urine varies a little at different periods of the day.

There is a very simple and beautiful test, by means of which the presence of sugar in the urine may be detected. A few crumbs of German yeast are put into the bottom of a small, narrow-necked bottle; this is filled up to the brim with the suspected urine, covered with a saucer, and then inverted. If a little urine be put in the saucer and the bottle be kept upright, the fluid will not run out. The saucer and inverted bottle should then be placed on one side in a warm place—say on the mantel-piece. If sugar be present fermentation takes place, giving rise to carbonic gas, which forces out of the bottle the whole or a portion of the urine. There is one precaution which should be observed. Some specimens of yeast spontaneously evolve bubbles of gas, so that it is desirable to perform a similar experiment with simple water in the place of the urine, and to compare the results. A pennyworth of German yeast may be purchased at any baker's.

The presence of sugar in the urine on one occasion is not an infallible sign of diabetes, for it may exist as a temporary condition, as the result of some error in diet. As a rule, however, it is a matter of serious import. In many cases the quantity of sugar contained in the urine is very great, and in some instances people have been known in a few months to pass their own weight of sugar.

So much, then, for the urine. We need hardly say that this is not the only symptom. As so much fluid is poured out by one channel the others naturally suffer. The skin is usually very dry. We have heard a patient say, "Nothing ever makes me perspire. It does not matter how hot it is, or how fast I walk, my skin is always quite dry, even under the armpits." The dryness of the skin is usually in proportion to the amount of urine secreted. The bowels are confined and the motions dry and hard. Excessive thirst is usually a common symptom, and often leads to the detection of the nature of the case. It is not uncommon for a diabetic patient to drink from eight to twelve pints a day, without satisfying his thirst. The mouth is usually dry; and the tongue dry, parched, and sticky. There is, as a rule, no falling-off in the appetite, and it is not uncommon for the patient to eat very much more than when in health. We often hear people say that as long as they can eat well there cannot be much the matter with them; but this is not always true. In spite of the quantity of food taken, the patient gradually loses strength and gets thinner and

thinner. This is the rule, but it is not without exceptions. We had recently under our care a man suffering from diabetes who weighed over twenty-three stone. He had not the slightest idea that there was anything serious the matter with him, and all he complained of was that he was so fat that he could not get about comfortably. The breath of diabetic patients has usually a peculiarly sweet and very characteristic odour. They often suffer from boils and carbuncles, frequently in an aggravated form. Cataract is not an uncommon accompaniment, so that the sight becomes affected.

Diabetes is generally a chronic disorder, creeping on at first insidiously, and under judicious treatment prolonged over a long course of years. Sometimes, however, it runs a very rapid course. In many cases the lungs become affected, and the patient ultimately dies from a form of consumption.

Having enumerated the symptoms of diabetes mellitus, we will now proceed to consider the circumstances which favour its production. In the first place, it is twice as common in men as it is in women. It prevails chiefly among young and middle-aged adults. It is relatively more common in urban and manufacturing districts than right out in the country. It is not usually considered to be an hereditary disease, but still, in some cases it would appear to run in families. It is difficult to say from what it arises. In a considerable number of cases it has followed soon after exposure to wet and cold. In some instances it is said to have been caused by drinking cold water whilst the body was hot; and in others it is supposed to have been the result of alcoholic excesses. A violent mental emotion has sufficed to produce it. In one case it followed distress of mind caused by unjust suspicion of theft; in another it came on after the burning down of the patient's place of business; whilst in a third it was attributed to anxiety attendant on a Chancery suit. In one instance it followed a violent fit of anger—a warning to bad-tempered people. There can be no doubt that in many cases it has followed blows or falls on the head.

In all cases of diabetes or suspected diabetes a medical man should be consulted. It will not, in the majority of cases, be requisite to remain permanently under his care. You will learn from him the exact nature of the complaint from which you are suffering, and he will give you directions as to your mode of living and the general method of treatment to be adopted. You will have to see him occasionally, and he will require you to carry out his directions most implicitly.

The first and foremost point to which attention must be paid in the treatment of diabetes is the diet. The plan to be pursued is to withdraw, as completely as possible, but not too suddenly, all articles containing sugar or starch (which is easily converted in the system into sugar), and to replace them by appropriate substitutes from the vegetable kingdom and by animal food. It is well known that life and strength may be sustained on a purely animal diet. The best proof of this is that the inhabitants of the Arctic region subsist exclusively on the flesh and blubber of seals, on fish, and such produce of the chase as the climate affords. Moreover, the fur-hunters of British America, an extremely vigorous and muscular body of men, subsist for many consecutive months on flesh alone. As the diabetic may take his choice of almost any article of animal food, he is clearly in no danger of dying of starvation. The only articles derived from the animal kingdom which are absolutely forbidden

are honey and liver, both of which contain sugar. Milk is usually prohibited because it contains sugar, but it is found that if taken in moderation it does but little harm. From the extensive diffusion of sugar and starchy matter through the vegetable kingdom, nearly all the vegetable alimentary substances in common use will have to be eschewed. Of course, starch is contained largely in bread and other kinds of corn food, whether derived from barley, oats, rye, maize, or rice, and these are consequently prohibited. Potatoes must be abandoned for the same reason, as must be peas and beans. Carrots, parsnips, beetroot, turnips, and radishes contain sugar, and are ineligible as articles of diet. Sago, tapioca, arrowroot, and other forms of farinaceous food, must be avoided. Macaroni, vermicelli, and Italian paste are prepared from wheat, and abound in starch. As regards vegetables other than those which have been already mentioned, it may be laid down as a general rule that anything white contains sugar, so that cauliflower, brocoli, cabbage, seakale, celery, and asparagus are objectionable. Any vegetable which, by exposure to the light, has become green, has lost its sugar, and may be freely used. Greens and spinach are allowed *ad libitum*, and so are watercresses and green lettuce. Radishes and celery contain sugar, but only in small quantities, so that, although they are prohibited, they may be taken occasionally as a treat. All fruits contain sugar, and must be avoided.

Most people complain bitterly of the deprivation caused by cutting off bread. We are all so accustomed to its use, that it is no joke to have to do without it. There are several articles which are used by diabetics as substitutes for bread, one of the best being the "bran cake." The husk or bran of wheat is quite devoid of starch and sugar, and can consequently be used with perfect safety. When it is washed and ground it may be made up into a kind of bread with butter and eggs, and forms a valuable addition to the restricted diet. The following is the mode of making these bran cakes:—Take a quart of wheat bran, boil it in two successive waters for a quarter of an hour, each time straining it through a sieve; then wash it well with cold water on the sieve until the water runs through perfectly clear; squeeze the bran in a cloth as dry as you can, then spread it thinly on a dish, and place it in a slow oven. If put in at night let it remain till the morning, when, if perfectly dry and crisp, it will be ready for grinding. The bran thus prepared must be ground in a fine mill, and sifted through a wire sieve of such fineness as to require the use of a brush to pass it through. That which remains in the sieve must be ground again until it becomes quite soft and fine. Take three or four ounces of this bran powder, from three to seven new-laid eggs, one or two ounces of butter, and about half a pint of milk. Mix the eggs with a little of the milk, and warm the butter with the other portion; stir the whole well together, and add a little nutmeg, ginger, or other spice, according to taste. Bake in small tins (patty-pans), which must be well buttered, in a rather quick oven, for about half an hour. The cakes when baked should be a little thicker than a captain's biscuit. They may be eaten with meat or cheese at breakfast, dinner, or supper, and at tea they may be taken with rather a free allowance of butter. It is very important to follow the directions given for washing and drying the bran. If not properly washed the bran will not be freed from starch, and the patient will suffer; whilst

if not properly dried it will be impossible to reduce the bran to a fine powder. In some seasons of the year, or if badly prepared, the cake soon undergoes a change; but this may be obviated by placing it before the fire for five or ten minutes every day. There is no difficulty in obtaining these "bran cakes" already made, as there are several bakers and confectioners in London and other large towns who prepare them. We, of course, cannot recommend any particular baker; but that is not a point which is likely to present any difficulty. For our own part, we must confess that we believe that it is better, if possible, to prepare the bread at home. It is not much trouble, and only requires a little practice to turn out a very palatable article. Moreover, you can vary the proportions of the ingredients according to taste. Some people buy the bran already prepared, and then make the biscuits. The bran biscuits have many advantages, but they are not free from disadvantages. Thus, many diabetics have loose or decayed teeth, and find some difficulty in masticating them. Sometimes the bran causes looseness of the bowels, or even decided diarrhoea.

Another substitute for bread will be found in "gluten bread." This is prepared by washing out the starch from wheaten flour, and then using the remaining gluten for making cakes and loaves. It is sometimes made into little buns, which are by no means bad to eat. The gluten may be obtained ground down into a meal, and is used for thickening broths and making puddings. Gluten bread is not without its objections: for although some people like it, others complain that when they get it into the mouth it seems as if they were chewing so much india-rubber.

Of late years rusks and biscuits have been prepared with eggs from sweet almonds ground to powder, and deprived of their starch by pouring over them boiling water slightly acidified with tartaric acid. They are often relished for a change.

We must next consider what may be taken in the way of beverages. Sweet wines, sweet ales, porter, and stout should be avoided; but dry sherry, claret, bitter ale, and occasionally a little brandy or whisky, are allowable. Amongst non-stimulating beverages, tea and coffee (without sugar), and cocoa from the nibs may be used. There is no objection to soda water, but lemonade contains sugar. No advantage has been found to be derived from curtailing the amount of fluid taken. It is sometimes recommended that all fluids should be taken tepid, as they allay the craving for liquid more effectually than when cold.

The following table will, we trust, be found useful:—

DIET TABLE FOR PEOPLE SUFFERING FROM DIABETES.

May eat

Butchers' meat of all kinds, except liver.

Ham, bacon, or other smoked, salted, dried, or cured meats.

Poultry. Game.

Fish of all kinds, fresh, salted, and cured.

Soup (except vegetable soup), beef tea, and broths.

Bran, gluten, or almond substitutes for bread.

Eggs dressed in any way.

Cheese. Cream Cheese.

Butter. Cream.

DIET TABLE FOR PEOPLE SUFFERING FROM DIABETES (*continued*).*May eat*

Greens. Spinach.
 Watercress. Mustard and cress. Green lettuce.
 Celery and radishes occasionally. Spring onions.
 Jelly, flavoured but not sweetened.
 Blancmange, made with cream but not milk.
 Custard made without sugar.
 Nuts of any description, sparingly.

Must avoid eating

Sugar in any form.
 Bread, wheaten or otherwise.
 Rice. Arrowroot. Sago. Tapioca. Macaroni. Vermicelli.
 Potatoes. Carrots. Parsnips. Turnips.
 Peas. French Beans.
 Cabbage. Brussels Sprouts.
 Asparagus. Seakale.
 Pastry and puddings of all kinds.
 Jams and marmalade.
 Fruit of all kinds, fresh and preserved.

May drink

Tea. Coffee. Cocoa from nibs.
 Dry sherry. Claret.
 Brandy and spirits that have not been sweetened.
 Soda water. Seltzer water. Vichy water.
 Bitter ale, sparingly.

Must avoid drinking

Milk, except sparingly.
 Sweet ales, mild and old. Porter and stout.
 All sweet wines. Port wine. Champagne.
 Liqueurs.

The general mode of life to be adopted by the patient is that common to most chronic complaints. It consists essentially in avoiding excesses of all kinds. A warm bath once or twice a week promotes the action of the skin, and adds greatly to the patient's comfort. The Turkish bath often proves beneficial.

We must next consider the medicinal treatment of diabetes. Opium frequently proves of considerable benefit, often quickly reducing the quantity of urine passed. As there is a great tolerance of opium in confirmed diabetes, large doses will have to be given. In the case of an adult, it would be well to commence with one grain doses, but two, three, and five grains three times a day are generally well borne. It should be given in the form of the compound soap pill.

Phosphoric acid often proves of value. It is especially indicated when frequent urging to urinate, pain in the loins, emaciation, and prostration are prominent symptoms, and it is particularly useful in cases of nervous origin. Improvement quickly follows its use, both in the general health and in the condition of the urine.

It should be given in two or three-drop doses in a tea-spoonful of water every two hours.

Bromide of potassium has been used with success in some cases.

Nitrate of uranium has sometimes proved efficacious. It not only quickly reduces the quantity of urine, but restores the strength and improves the general condition; the dose is one-sixth of a grain in water three times a day, or a smaller dose more frequently.

The liquid extract of ergot, given in thirty-drop doses in water three times a day, has proved of such signal benefit in diabetes insipidus that where other remedies have failed we should advise a trial of it in saccharine diabetes. In one case in which we gave it, it undoubtedly did good.

There is one special form of treatment to which some reference must be made. It is known as the "skim milk" treatment. Several cases are reported in which the quantity of urine was steadily and greatly diminished and the specific gravity correspondingly reduced, by restricting the patient to a daily allowance of six pints of skimmed milk. It has the great advantage that it can be adopted without in any way interfering with the patient's ordinary occupation. The skim milk is the only food allowed; and nothing else of any kind is to be taken. The quantity of milk should be fixed, and it should be taken at definite times, so as to constitute meals. It will probably have to be continued for six weeks, and then any kind of animal food may be allowed once or twice daily; bran bread, gluten bread, &c., being gradually added to the dietary.

This, then, completes our account of diabetes mellitus, and we must now consider the other form of diabetes.

Diabetes Insipidus.—In this complaint, as we have already seen, the patient passes very large quantities of water, but it is free from sugar or other abnormal ingredient.

The quantity of urine secreted by persons affected with insipid diabetes is usually greater even than in saccharine diabetes; and it is not uncommon for fifteen, thirty, or even forty pints, to be passed in the twenty-four hours. We at one time had under our care a man who habitually passed twenty-two pints of water in the course of the day and night. He was kept under constant supervision, and the urine was carefully measured, so that there was no mistake about it. He usually had to pass his urine two or three times in an hour, and was on this account unable to go to church or to any place of amusement. He usually had a slop pail under his bed in addition to two ordinary chamber-utensils. In the case of another patient, it was stated that the ordinary chamber-utensil was "not a bit of good to her," and she was always obliged to have a big pail in her room. The urine is generally of a light straw colour, clear and free from deposit. Its specific gravity is always very low, and in this respect it presents a marked contrast to the urine passed in diabetes mellitus. Sometimes, in fact, it is very little heavier than water, so that the urinometer may stand at 1,001 or 1,002. This thin, limpid urine decomposes very rapidly, and usually becomes extremely offensive after standing for even a very short time.

The intense thirst experienced in these cases is one of the most distressing

symptoms. The patient to whom we have referred assured us that he had drunk as much as twenty-two quarts in the twenty-four hours. He had measured it on several occasions, when this had been the quantity. He seldom drank less than a quart at a time. He went out as much as possible to "keep away from the water." He generally kept a little pebble in his mouth to check the sensation of thirst. His sufferings when he was unable to get water were very great. He said he should never forget one day when he was left alone in the house, without anything to drink. He was laid up at the time, and too weak to get about. For about an hour he was pretty comfortable, but then became very thirsty. He bore his thirst as well as he could, hoping that some one would come to him, but it finally became so intolerable that he suddenly caught up his chamber-pot and took a long, deep draught of his urine. During the day he drank the urine he passed seven times. It was at last so salt that it hardly quenched his thirst at all.

The appetite is variable; sometimes it is voracious, but more commonly moderate or indifferent. Our patient often went for days together without touching meat. On one occasion he stated that he had nothing to eat but half a half-penny biscuit for four days. He had "no appetite, and could not eat anything." He was usually a week or more without having a motion, and had sometimes gone from a month to six weeks. The *faeces* were very hard, and were passed with great difficulty.

As might be imagined, the skin is usually dry. Our patient could walk as fast as he liked, even in the hottest day in the summer, without perspiring about the body. We remember a little boy who suffered in the same way, and whose mother declared that she believed that he had perspired only once in all his life. Diabetes insipidus is a complaint which is usually unattended with pain; but this little boy suffered greatly from cramps in the legs. He, like most diabetics, suffered greatly from cold. He "was always over the kitchen fire, and you could not get him away from it." Our man stated that "as soon as he got away from the fire he was all of a shake."

Loss of flesh, general weakness, and inaptitude for work are usually prominent symptoms.

Insipid diabetes occurs more commonly in men than in women. It may occur at any age, but the majority of cases are met with in people below thirty. In one or two instances the disease appears to have actually existed from birth. It is difficult to say what it arises from. In a very large proportion of cases no exciting cause whatever could be assigned, and the patient had no idea what brought it on. In some instances it seems to have followed exposure to cold, and in others to have arisen from muscular exertion. The patient to whom we have so frequently referred was able to speak very definitely as to the origin of his complaint. On a bitterly cold winter's day he had run as hard as he could for a distance of four miles. He was "dripping wet" and the perspiration was running off him; but before he had time to get cool he had to drive a pony-chaise home a distance of six miles. That was the commencement of his illness.

Some patients suffering from diabetes insipidus have an intense dislike for vegetable food, whilst others care for nothing else. Some are very sensitive to alcoholic drinks, whilst others exhibit a remarkable tolerance of stimulants. The

French physician, Trousseau, relates the case of a man who from the commencement of his illness had acquired a remarkable immunity from the causes of drunkenness. He had frequently drunk a litre (a pint and three-quarters) of brandy in two hours without inconvenience. On one occasion he laid a wager that he would drink twenty bottles of wine at a single sitting, and he won it, without the least disturbance of the nervous system.

Is this complaint curable? What is the best method of treating it? We believe that there is no remedy equal to the liquid extract of ergot. Go to a chemist and get half an ounce of it. It is a black fluid in appearance, not unlike laudanum. Take thirty drops in a little water three times a day, or half the dose six times a day. It is a perfectly safe remedy, and no harm will come from its use. If you tell the chemist how much you are going to take, he will probably tell you that the dose is excessive, so you had better say nothing about it. Measure all your water passed in the twenty-four hours for several days before you begin your treatment, and continue to do so whilst taking the medicine. If your urine decreases in quantity you will have a good proof that it is doing you good. Do not be disappointed if you fail to perceive much improvement for the first week; the medicine takes a little while to do its work. We once saw a man's urine reduced from twenty pints to the normal quantity in less than a month, and all his distressing symptoms left him. When you have got your water down to three pints in the twenty-four hours you had better discontinue the medicine. If you will take the trouble to take the specific gravity of your urine every day, you will find that it rises as the quantity of water passed decreases, and this of course is a good sign. In the man to whom we have referred the specific gravity of the urine rose under the treatment from a little over 1,000 to 1,017.

We have known cramps in the legs occurring in a patient suffering from insipid diabetes quickly cured by the ergot. Of course, in the case of children and young people smaller doses than we have mentioned should be given.

Although we have the greatest faith in the ergot as a remedy for insipid diabetes, we must not neglect to mention other remedies. Common nitre is often given with success. The best way is to buy half an ounce of nitre, shake it up in a pint bottle of water, and take a tea-spoonful every hour or every two hours. The urine should be measured, to see what effect it has on the quantity.

The use of valerian in large and repeated doses has sometimes been attended with success. The application of a blister to the nape of the neck has in some cases done good, but in others it has succeeded better when applied to the pit of the stomach.

There is no occasion to restrict the diet in any way in the insipid form of diabetes. You may eat what you like, and as much as you like. Enforced abstinence from fluids aggravates most of the symptoms; the skin becomes unbearably hot, a sense of intolerable sinking, or even of intense pain, is felt at the pit of the stomach, and the mind becomes confused. Only take one medicine at a time, and give it a fair trial. Do not say that it is useless because you are not cured straight off. Chronic diseases often take a long time to get rid of, as you have probably already discovered.

Ought you to go to a doctor? Certainly, or you may possibly make some mistake as to the complaint from which you are suffering. Only, if you are sure that you have diabetes insipidus, and have not tried the ergot, we advise you to do so.

DIARRHŒA, OR LOOSENESS OF THE BOWELS.

There is no complaint more common, and none which requires greater care for its successful treatment, than diarrhœa. It may be dependent on so many different causes, that it is absolutely necessary that the individual case should be thoroughly investigated before any treatment is commenced. People often ask, "What is the best thing for diarrhœa?" and in answer to this question we can only say that there is no best remedy, and that the treatment must depend entirely upon the nature of the case. It is quite true that a general diarrhœa mixture is kept at most of our hospitals, and is given away during the summer months, but this necessarily fails in a large number of cases. A remedy which would prove beneficial in one instance, or in one form of diarrhœa, might in another prove utterly useless.

In examining a bad case of diarrhœa, either in a child or in an adult, we must learn all we possibly can, either from the patient or the friends, respecting the onset of the attack and its subsequent progress. We must try to find out what was the exciting cause, and from what other symptoms the patient is suffering, as a consideration of these circumstances will do much to enable us to arrive at a correct conclusion in the choice of our remedy. The motions should be seen, so that their characters may be determined, and as much information as possible derived from this source.

There is so great a diversity in the symptoms which accompany diarrhœa, that there is scarcely any phenomenon common to all the varieties, except that the stools are more liquid, frequent, and copious than in health. The evacuations may be very few, not exceeding two or three daily, or so frequent that the patient scarcely satisfies one call before he experiences another. There is generally more or less pain before the evacuations, which are almost always followed by relief; but in some cases, no pain whatever is experienced throughout. Along with the discharge is occasionally a very disagreeable sinking sensation in the abdomen, with a general feeling of exhaustion or faintness, a cold skin, and a feeble, irregular pulse. Diarrhœa is sometimes attended with fever, but in most cases it is absent. The skin is usually dry and the urine scanty. Every possible diversity exists in the degree, duration, and danger of the complaint. It may be quite trivial, getting well in a day or two without aid, or it may run on for months, or even years, resisting every variety of treatment. In some cases death ensues rapidly from great exhaustion; but more commonly a fatal termination is preceded by slow emaciation and gradual loss of strength. In the large majority of cases the attendance of a medical man is unnecessary, and a little judicious treatment is followed by a rapid cure. At the same time, it must be remembered that simple diarrhœa passes almost insensibly into the graver form. It is a golden rule that if you are in any doubt about sending for the doctor, you had better do so. If you err, err on the right side.

Diarrhœa is a prominent symptom of many diseases. It is an essential part of

cholera, dysentery, and typhoid fever, and is too frequently an accompaniment of the last stage of consumption. It often proves the immediate cause of death in people who have been long confined to bed by chronic illness.

Diarrhœa, however, is not unfrequently the sole, or at all events the essential, cause of complaint. It is the disease itself, and not a mere symptom of some other malady.

The causes of diarrhœa are numerous, one of the most common being some error in diet. It may be the result of over-eating and drinking, or of taking some particular article of food which has disagreed with the stomach and set up irritation. People after a large dinner not uncommonly suffer from diarrhœa. It is usually attributed to the salmon or oyster-sauce, or to some perfectly innocent article, whereas in reality it is due to the mixture of the various kinds of food and drink, and more especially to the actual quantity taken. The stomach and bowels not unnaturally rebel when made the receptacle of such a heterogeneous collection of substances. There are certain articles of diet, however, which undoubtedly have a strong tendency to provoke diarrhœa; and amongst these comparatively indigestible substances we may enumerate unripe fruit, raw vegetables, sausages, pork, veal, goose, duck, &c. Many kinds of shell-fish, such as lobsters, crabs, and mussels, are apt to act as irritants. Putrid food, or, to use the more refined phraseology of gastronomers, food which is high, has the same effect on many people, who would consequently do well to take their venison and game with a certain amount of caution. Articles of diet which are in themselves perfectly good and wholesome often cause diarrhœa when resorted to for the first time. This is, in all probability, the explanation of the free purging from which many of us suffer on our first visit to the Continent. Bad cooking may lead to diarrhœa, and has sometimes caused quite an epidemic in large establishments.

Impure water is another common cause. Water contaminated with decomposing animal matter, or with sewage or sewage gas, is pretty certain to cause diarrhœa, either at once or gradually, according to the degree of impurity and the quantities in which it is consumed. Symptoms resembling those of cholera are sometimes produced by drinking the waters of the Volga, which are impregnated with sewage. In St. Petersburg, the water of the Neva, which is rich in organic substances, gives diarrhœa to strangers. When diarrhœa prevails over a limited area, as in only a certain row of houses, the condition of the water supply should always be investigated.

Bad smells often give rise to diarrhœa. Many people who live in the neighbourhood of grave yards suffer in this way. The smell from a newly-opened cesspool, or the emanations from a manure heap, or, worse still, a manure manufactory, have been known to have the same effect. Medical students when first they commence dissecting, or at later periods of their career, if they apply too assiduously, are often sufferers.

Worms are not unfrequently the cause of looseness of the bowels, not only in children, but also in adults. The round worm, as a rule, causes more irritation than the tape-worm.

Mental emotions, more especially fear and anxiety, sometimes act as an exciting cause. The anticipation of any unusual ordeal, such as speaking in public,

going up for an examination, or the thoughts of a surgical operation, may induce diarrhœa. A sudden panic will operate on the bowels of some persons as *surely* as a black dose, and much more *speedily*. Sudden atmospheric changes, or the removal from a warm to a temperate climate, will often bring on an attack of diarrhœa. In women it is sometimes induced by getting chilled in damp, cold places. Standing for some time on stone flags has been known to excite it.

Summer diarrhœa, or choleraic diarrhœa, or English cholera, as it is often called, is prevalent in this country from June till the end of September. It is as constantly observed when the temperature rises above 60° as are coughs and colds when it falls below 32°. The attack is generally sudden. At first the ordinary contents of the bowels are discharged, and then a large quantity of fluid is expelled, both by purging and vomiting. The stools are copious and watery, dark-brown or green in colour, and are often shot out with a considerable amount of force. The seizure is often accompanied by colic and pain in the region of the navel. Exhaustion may ensue very rapidly, so that in a few hours the pulse becomes weak, the voice feeble, the temperature of the body reduced, and the patient passes into a very critical condition. Sometimes the disease resembles in its intensity Asiatic cholera, and death may ensue rapidly.

Sometimes diarrhœa is met with in the chronic form, and this is by no means uncommon in "old Indians," whose health has deteriorated from a long residence in a tropical climate. There is one form which is commonly known as "white flux," from the paleness of the stools. This complaint usually begins without any particular symptoms beyond those of relaxed bowels. Sometimes there are two or three motions in the twenty-four hours, the stools being liquid and frothy, and having the appearance of chalk and dirty water, or being of the consistence of thick gruel. The health is gradually undermined, the motions increase in size and frequency, and unless treatment proves successful in arresting the complaint the most serious consequences may follow.

There is another form of diarrhœa which, although not very common, we should be loth to pass over in silence. Many unquestionable instances are recorded, both in ancient and modern literature, of persons who, while suffering from diarrhœa, have voided oil or fat. In one instance a woman discharged every day for fourteen months a considerable quantity of yellow fat, that lay upon the motions like melted butter. We are told that when voided into a vessel of water it floated like oil upon the surface, and when cold it assumed the consistence and appearance of fat. Like fat, it was inflammable and burned with a bright flame. In another case a portion of the substance was analysed, and was found to consist of true fat. In several cases this condition has been found after death to be associated with disease of the pancreas, or sweetbread. We know nothing about the treatment; but a lady who suffered from this complaint recovered after swallowing a pint of sweet oil. A late distinguished physician, upon this hint, gave his patient, who was labouring at the same time under diabetes, a quarter of a pint of olive oil, and from that time the voiding of fat diminished and soon after ceased.

In cases of chronic diarrhœa the possibility of slow poisoning must be taken into consideration. Even if the symptoms have been caused by the introduction of

poison into the system, it does not follow that it has been administered intentionally. There are several cases on record in which obstinate diarrhœa has resulted from living in a room hung with paper containing arsenic. If you have any reason to suspect that poison is being secretly administered, it is your duty to at once call in a physician on whom you can place the most implicit reliance, and put the whole circumstances of the case before him. It too frequently happens that the patient himself is so weakened and debilitated by his complaint that it would be useless, or worse than useless, to communicate your suspicions to him. You must remember that whatever is done must be done quickly; prompt action in such a matter may avert a great calamity. An examination or analysis of the patient's urine will in most cases show whether your suspicions have been well founded.

We must now pass on to the consideration of some of the most approved methods of treating the various forms of diarrhœa. When the complaint is dependent upon the presence of some irritant in the bowels, such as any of the different kinds of indigestible food of which we have already spoken, we cannot expect to do much good until we have got rid of the offending body. Castor oil is often used for this purpose, and usually acts admirably. Another good remedy is rhubarb, which has this advantage: that it acts first as a purgative, and expels the irritant, and then as an astringent, and checks the diarrhœa. For adults it is conveniently given in the form of compound rhubarb pill, and for children as Gregory's powder. This may be followed, if necessary, by one or two table-spoonful doses of the ordinary chalk mixture, or of the diarrhœa mixture (Pr. 28). These are simple enough cases, and seldom give any trouble or anxiety.

Camphor is the recognised remedy for diarrhœa excited by the effluvia of drains, but arsenic (Pr. 40) often proves useful.

Diarrhœa which has been induced by mental emotion is said to be often cured by the tincture of gelseminum, given in two-drop doses every ten minutes for an hour. The complaint is so common amongst public men, that any trustworthy means of treatment must be regarded as a boon. In diarrhœa arising from fright, small doses of laudanum may be given with advantage.

When the diarrhœa is attended with fever—in other words, by elevation of temperature, as shown by the thermometer—aconite is indicated. A tea-spoonful of the aconite mixture (Pr. 38) may be given every ten minutes for the first hour, and subsequently hourly. Should this fail, Pr. 48 may be expected to do good.

The remedy on which we place the greatest reliance in the treatment of summer diarrhœa is undoubtedly camphor. It is of inestimable value in the diarrhœa which is often epidemic during the hotter months of the year, and is especially indicated when the onset of the attack is sudden. Even when the strength is sinking rapidly, as the result of the excessive purging, and the face is pale and livid, and the whole body is icy cold, camphor will restore warmth to the extremities, and rescue the patient from an apparently almost hopeless state. It is essential to give the strong preparation—Rubini's essence of camphor; give it frequently; and give it as soon as possible, for every moment's delay is of importance. The dose is from three to five drops every ten minutes or a quarter of an hour till the symptoms abate, and hourly afterwards. It is a good plan to mix it with a little brandy, but it answers

admirably if given in milk or on sugar. If the essence of camphor is not at hand, the camphor pilules, sold at any chemist's, will do as well. The tincture of cinchona or bark also gives good results in the treatment of these cases. It should be given in drop-doses after every loose motion.

In summer diarrhœa, and, for the matter of that, in all kinds of diarrhœa, the greatest attention must be paid to the diet. It is of not the slightest use giving solid food, for it will only be ejected immediately. The best thing is for the patient to take nothing but fluid nourishment, and to take it cold. Get a tumblerful of milk, and put in it a table-spoonful of brandy and a few pieces of ice; give the sufferer only a tea-spoonful at a time. If you give more at first it will be almost sure to excite the vomiting and purging. When you find this small quantity is retained, you can gradually and carefully increase the dose. You will remember that milk is extremely nutritious, and that if the patient can take this and digest it he is in no danger of being starved. When the stomach is very irritable the following will often prove useful:—Take a table-spoonful of cream and beat it up thoroughly with the white of a new-laid egg. Add slowly to the froth of the mixture thus obtained a table-spoonful of brandy, in which a lump of sugar has been dissolved. As a rule, we prefer the iced brandy and milk.

In many of the chronic forms of diarrhœa, and more especially in the “white flux” of the “old Indian,” great benefit will be experienced from the administration of arsenic. A tea-spoonful of the mixture (Pr. 40) should be given three or four times a day, or after every loose motion. Small doses of mercury, given frequently, as in Prs. 48 and 71, will often do good. It is very essential in these cases to endeavour to improve the general health, and tonics will often afford much more satisfactory results than astringents and diarrhœa mixtures. The acid and gentian mixture (Pr. 15), or the perchloride of iron mixture (Pr. 1), will do much to give tone to the system. In obstinate cases, the adoption for a time of an exclusively milk diet will sometimes effect a cure.

When the complaint has been contracted in a malarial, *i.e.*, aguish, district, or the patient has previously suffered from ague, a course of quinine (Prs. 9 and 10) will often afford the happiest result.

There are many other valuable remedies for diarrhœa besides those to which we have already referred. We now proceed to enumerate the chief, giving after each a short description of the class of cases in which it has proved most useful.

Camphor.—We have already spoken of the value of this drug in the treatment of summer or choleraic diarrhœa. The great indication for its employment is the *suddenness of the attack*. But it may be said, “Surely diarrhœa always comes on suddenly; you would not expect it to take a month about it.” That is quite true, but some kinds of diarrhœa come on very much more quickly than others. You are in the midst of an animated conversation, let us say, when suddenly you feel that if you cannot make some excuse to get away something dreadful must happen. That is just the case for camphor; and the more startling and unexpected is the onset of the attack, the greater is the probability that camphor will do good. The motions in these cases are usually *watery, and dark in colour*. When there is coldness of the surface of the body, camphor will usually quickly restore warmth to the extremities.

It is the best remedy for that form of diarrhœa which is excited by standing on cold stones. We have already insisted on the fact that if camphor is to do good it must be given early and frequently. The dose is from four to six drops of the essence of camphor every ten minutes till the symptoms abate, and hourly afterwards, or one of the camphor pilules may be given in a similar manner.

Mercury, in small doses, is an excellent remedy for many forms of diarrhœa. It is useful when the patient voids *pale, clayey, or pasty stinking* motions, and at the same time suffers from acidity, flatulency, a furred tongue, a little yellowness about the eyes, or other symptoms of deficient action of the liver. It is also indicated when the motions are passed with pain and straining, and are very *slimy, and perhaps mixed with blood*. It will also do good when some ten or a dozen *watery, offensive, muddy-looking, or green-coloured* stools are passed daily. It will be given either as Pr. 48 or Pr. 71.

Podophyllum is especially indicated in *morning diarrhœa*. The motions are usually *high-coloured*, and their passage is attended with sharp, cutting pains. The Pr. 51 will be found useful.

Arsenic is useful in autumnal diarrhœa. The motions are usually *watery, slimy, and green or brown*. It will nearly always succeed when a *burning sensation attends the effort of expelling the motion*. Another indication for its employment is the occurrence of the diarrhœa *immediately after eating or drinking*, a form which is not at all uncommon in sufferers from indigestion. A tea-spoonful of the arsenic mixture (Pr. 40) should be given every four hours, or after every loose motion.

Pulsatilla is serviceable in diarrhœa arising from *indulgence in rich, indigestible food*, such as duck or pork. It is especially useful when the motions *differ from one another in colour*. A drop of the tincture of pulsatilla should be given in water every ten minutes for the first hour, and subsequently hourly until an improvement is noticed.

Ipecacuanha should be given when the diarrhœa is *attended with nausea or vomiting*, paleness of the face, weakness, and a desire to remain lying down. It does most good when the stools are *slimy, green or not, with or without blood*. The dose is a tea-spoonful of the ipecacuanha mixture (Pr. 50) every hour, or a smaller quantity more frequently.

Colocynth is indicated when the diarrhœa is *attended with griping*.

Nux Vomica is the remedy for diarrhœa *alternating with constipation*. The motions are usually *scanty*, and often mixed with slime or blood. (See Pr. 44.)

Cinchona or Bark is useful when the diarrhœa was excited by *over-indulgence in fruit*. It is also useful when it is most *troublesome at night*. The motions in this kind of diarrhœa are usually *liquid, and brownish in colour*. A drop of the tincture of bark should be given in water every ten minutes for the first hour, and then hourly.

Chamomile is the best remedy for diarrhœa occurring in fretful children, especially when they are *teething*. The motions at these times are usually *watery, bilious, green, yellow, or slimy, or smelling like rotten eggs*. Half a tea-spoonful of chamomile-tea should be given every ten minutes for the first hour, and subsequently hourly or after every loose motion. The method of preparing the tea will be subsequently given. (See CHAMOMILE in the MATERIA MEDICA.)

Lime water is often of great benefit in young children suffering from chronic vomiting and diarrhoea, and consequent wasting. It improves the digestion and removes the irritating condition of the urine, which is so common an accompaniment. It neutralises any excess of acid that may be present in the bowels. It may be given in milk : one part of lime water to three of milk.

Opium is an excellent remedy in almost all kinds of diarrhoea, although it must be confessed that in this, as in the case of several of the following, the indications for its employment are not as yet very strictly defined. It may be given in the form of laudanum in a twenty-drop dose in a little water. This is for an adult ; it must never be given to children.

Acetate of Lead (sugar of lead) is another good remedy. It should be given in five-grain doses every four hours, as in Pr. 30. It will also arrest bleeding at the same time. It is suitable for obstinate cases.

Oxide of Zinc is also useful in diarrhoea. It may be given in the form of the pills (Pr. 66), two to be taken every three hours.

Sulphate of Copper, or blue stone, is sometimes used in obstinate cases. It is a very powerful astringent, and should be used with a certain amount of caution, and only in severe cases. The same may be said of nitrate of silver. Either may be given in half-grain doses made into a pill.

Gallic Acid, *Tannic Acid*, *Catechu*, and *Kino* are all useful in simple cases of diarrhoea, and a mixture containing several of these astringents may be given.

Bismuth is a remedy which often succeeds when everything else has failed. A drachm of the nitrate of bismuth should be given in milk several times a day. This dose is larger than is usually recommended, but it will not disturb the stomach or cause any inconvenience. It is a remedy of which we can speak highly in obstinate cases. We have seen it succeed when almost everything else has been tried in vain. Children do very well with smaller doses, but on the Continent they are frequently given from thirty to sixty grains hourly.

Chlorodyne is a remedy not to be despised. It is not a great favourite with doctors because it is a patent medicine, but that is a matter of very little consequence if it will cure you.

These are the remedies to be given by the mouth, but sometimes, when the case is urgent, it is absolutely necessary to give an injection. The quantity of fluid employed for the injection should be small, or the bowel will contract and expel it, whereas it is desirable that it should be retained as long as possible, in order to exert its influence. An injection of an ounce (two table-spoonfuls), or at most two ounces, is sufficient for an adult ; and it may be repeated several times a day, according to the urgency of the symptoms. The material used for these injections is starch and water of the consistence of cream, and of about the heat of the body. A starch injection alone is often useful, but its astringent and sedative action is greatly heightened by the addition, for an adult, of twenty drops of laudanum. Five grains of acetate of lead added to the injection will do much to increase its efficacy. An injection will often save a life that appeared almost hopeless. Sulphate of copper or bismuth may at the same time be given by the mouth.

Many doctors employ cold or tepid packing in diarrhoea, especially in the

summer diarrhœa of children. We have had no experience of this method of treatment, but from the published accounts the results appear to be very favourable.

In obstinate chronic cases of diarrhœa, and more particularly in the "white flux," good results are often obtained by directing the attention to the diet. It is a good plan for the patient to put himself temporarily on a restricted diet, and he may with advantage confine himself exclusively to milk. The milk is often more readily digested if mixed with a fourth part of lime water. In summer it is pleasanter to have the mixture iced. The quantity taken need not be limited, but it is advisable to take it at regular intervals. If the patient has been accustomed all his life to the use of stimulants, he will at first find a little difficulty in doing without them, but it is imperative that he should make the effort, at all events for a time.

The patient should be very careful about his clothing. He should wear flannel next the skin, and should have, in addition, a flannel bandage round the abdomen. He should keep as much as possible in a uniform temperature, and should be very particular to avoid draughts and chills. In wet or unfavourable weather he should remain in-doors. When there has been a distinct improvement, the patient may gradually and cautiously return to his ordinary diet. He must, however, still be very abstemious both in eating and drinking. Beef tea, mutton broth, or a raw egg beaten up with milk and flavoured with a tea-spoonful of brandy, is generally well borne. The following will form an agreeable variety:—Boil a pint of new milk, with sufficient cinnamon to flavour it pleasantly, and sweeten with white sugar. This may be taken cold with a tea-spoonful of brandy, and is useful in many forms of diarrhœa. Tea, and more especially coffee, are to be avoided. Wines and spirits of all kinds are bad. The diet will, at first, be to some extent experimental. The sufferer must feel his way, and find out for himself what he can take with safety. He must exercise the greatest moderation both in eating and drinking. He must be very careful not to take too much of anything, and should he make a mistake he must take care not to repeat it.

Some people would say that life was not worth living for under these conditions. Let them try, and we think they will soon change their opinion. We should say that moderation both in eating and drinking was essential for the attainment of true happiness.

DIPHTHERIA.

Considerable diversity of opinion exists amongst medical men as to the true nature of diphtheria. Speaking generally, however, and without any pretension to scientific accuracy, we should say that it was a malignant sore throat, attended with the formation of a membrane.

Few diseases are more dreaded both by patients and their doctors than diphtheria. It is a disease which must have been known as long as the history of man extends, but it is only during the last twenty or thirty years that attention has been especially directed to it in this country. Many men now living were in practice in London for more than a quarter of a century before ever meeting with a case, although it was common enough on the Continent. In 1855 it was alarmingly prevalent at Boulogne, and it presently appeared among us in the form of a most fatal epidemic.

The epidemic reached its height in 1858 and 1859, and during those two years it is estimated that over twenty thousand people died from it. Since then, isolated cases have been of frequent occurrence all over the country. A medical man in active practice seldom goes more than three or four months without seeing a case.

Diphtheria is a disease which attacks children more frequently than adults, and girls more commonly than boys. It may occur at any season, and is little affected by either heat or cold, draught or rain. In different epidemics it has been found that neither the heat of the dog-days nor the frost of winter affected the prevalence of the disease. Its development is apparently particularly favoured by poverty and uncleanness, for it quickly invades the hovels of the poor, where too frequently men and animals are crowded together under the same roof, and dung-heaps, privies, and other sources of putrefaction fill the air with their effluvia. It very often breaks out in factories, schools, and barracks, which not uncommonly are insufficient in size or defective in ventilation. But even families and people who live under much more favourable conditions are not spared, and children who enjoy the best of care and nourishment are frequently seized and carried off by this fatal disease. Some people appear to be much more susceptible to its influence than others; thus of two families residing in the same house, and apparently under identical conditions, one has suffered severely, whilst the other has entirely escaped. A difference of susceptibility is also observed in members of the same family, and this is not always in favour of the more robust. It is said that people of great mental activity and a high degree of nervous susceptibility are especially prone to suffer from the disease.

Is it contagious? Undoubtedly. We know that it is contagious, although we are not acquainted with the exact mode in which the contagion operates. The infectious matter is not capable of any wide diffusion through the air, but it clings in the most persistent manner to particular places, houses, and even rooms. There is, we believe, no known instance of its having been conveyed from one house to another by a person not suffering from the disease. It is still very doubtful whether it can be inoculated. There is a good deal of contradictory evidence on the subject. The following case would appear to be a strong argument in favour of its inoculability. M. Valleix, a well known and esteemed French surgeon and writer, was in attendance upon a little girl suffering from diphtheritic sore throat. Under energetic treatment she recovered. One day, however, while M. Valleix was inspecting her throat he received into his mouth a small quantity of saliva driven out of that of the patient in the act of coughing. Next day a little exudation appeared on one of his tonsils. The other tonsil and the adjacent parts became speedily covered with false membrane, a profuse discharge took place from the nostrils, delirium supervened, and in forty-eight hours M. Valleix was dead. In another case of diphtheria the medical man in attendance found it necessary to open the windpipe to relieve the breathing. There was some obstruction from the accumulation of blood, when the operator, to save the patient's life, applied his mouth to the wound in the neck, and sucked the fluid out. In forty-eight hours he died from symptoms identical with those from which M. Valleix suffered. Trousseau, the celebrated French physician who relates these cases, being dissatisfied with the evidence advanced in favour of the view that the disease was

capable of being inoculated, punctured his arm, his tonsils, and throat, with a lancet moistened with the membrane which he had just removed from a diphtheritic sore throat. The attempt to inoculate himself was unsuccessful, and M. Trousseau suffered in no way from his devotion to science. The experiment was subsequently repeated by another French physician, with the same negative result.

Do people ever have diphtheria twice? There can be no doubt that a person may suffer from it any number of times. The fact of having had and survived the disease does not grant that immunity against a second attack which is so markedly a characteristic of measles, scarlatina, and small-pox.

Diphtheria usually begins, both in adults and children, with marked symptoms of fever, there being an elevation of the temperature of the body by four or five degrees, and an increase in the rate of the pulse which is often very marked. Sometimes the attack begins with a little sensation of chilliness, but it is never ushered in with that marked shivering which occurs in some other fevers. The patient usually complains of a stupid feeling, of pain in the head and neck or in the loins, of debility, weakness in the limbs, and increased thirst. Sometimes he is restless or inclined to be drowsy, or he may be sick. Children, when first taken ill, are apt to sleep during the day more than usual, and are restless or even light-headed at night.

Very shortly the patient experiences a sensation of dryness and burning in the throat, as well as pain on swallowing. If the space under the jaw be examined, some little hard, tender lumps will be felt, which are the enlarged glands. If the throat be now carefully examined, it will be found to be of a dark-red livid colour, the uvula which hangs down at the back being swollen to twice its size. In a few hours the affected parts become covered with a false membrane, which is most marked on the tonsils and soft palate. This diphtheritic inflammation, with the formation of the membrane, is very prone to spread, both upwards to the back of the nose and downwards into the larynx and windpipe. At first the membrane is easily detached, and the tissues beneath are apparently healthy, but as it grows thicker and tougher it may be torn off in strips, and the subjacent structures will be seen to be raw and bleeding. As the local mischief extends the temperature of the body usually rises, and the general constitutional disturbance is increased. The difficulty in swallowing is in proportion to the amount of inflammation, swelling, and exudation. Wearisome and painful efforts to clear the throat are often occasioned by the abundant secretion of a thick tenacious mucus. In some cases the breath becomes extremely offensive. From the first there is usually a good deal of cough; but should the windpipe become affected both cough and voice assume a hoarse, husky, muffled tone, and a difficulty is experienced in breathing. During the whole course of the disease the bowels are either quite natural or they are confined, diarrhoea being very unusual.

Several varieties of diphtheria are recognised by medical men; in some the symptoms are much milder than we have described, and in others they assume a more malignant type.

The great danger of the slighter forms is that they may be entirely overlooked. The patient is apparently so little indisposed that professional aid is not considered necessary, and the true nature of the complaint remains undetected. It may so happen that this is of very little moment to the patient himself, but it is a matter of

the very gravest importance to all who have the misfortune to be brought in contact with him. This slight attack is capable of communicating to other people the disease in its most malignant form. It is difficult to over-estimate the serious consequences that might ensue from a case of this description being allowed to run loose in a school.

These slight attacks usually begin without any symptoms which might give warning to the patient or his friends of the approaching danger. There is a little fever or none at all; there is a trifling sensation of malaise, a little uneasiness in the throat, and a feeling of dryness or a slight pricking pain in swallowing. In adults these symptoms are very easily overlooked, and in children they cannot be ascertained. The glands of the jaw and neck swell moderately, and are somewhat tender or painful on gentle pressure, only in rare cases does this light form of the disease give rise to more marked symptoms. The fever is then more intense, the temperature of the body stands three or four degrees higher than normal, the skin feels dry and hot, the pulse is frequent and full, and the face slightly congested. The patient complains of heaviness about the head or of a sense of stupidity, of lassitude, increased thirst, and of an annoying or painful sensation on swallowing. Sometimes even there may be a little stomach disturbance and the patient may be sick; still, after a short time—usually in the course of from twelve to twenty-four hours—these symptoms disappear as quickly as they came, and the patient soon forgets all about what he characterises as his little temporary indisposition.

If, however, we could have examined his throat, we should have found that it was in places swollen and of a vivid red colour. A few hours later a number of greyish-white or whitish-yellow spots would have been seen, perhaps confined to one tonsil and a little of the adjacent tissues, and we should then have entertained no doubt as to the true nature of the disease. The diphtheritic membrane gradually clears off, and in a few days the attack may be over; or, on the other hand, the termination may be less favourable.

It should always be remembered that in these cases the absence of fever and general constitutional disturbance is no guarantee that mischief is not going on in the throat. The temperature may be scarcely elevated above the normal, the pulse may be but slightly accelerated, the difficulty in swallowing may be nearly gone, and the general condition apparently quite satisfactory, and yet the formation of the diphtheritic membrane may be gradually extending. On the fourth, or perhaps the sixth, day the temperature may suddenly rise to 103° or 104° , and the pulse to 120 or 130 beats in the minute. The head is hot and painful, and the patient says he feels very ill.

He complains of a feeling of dryness and burning in the throat and pain on swallowing, and there is now no difficulty in recognising the fact that he is in for a bad attack, and is suffering from the more serious form of the disease, which we have already described.

If there be any wound or abrasion of the skin during an attack of diphtheria it is apt to become covered with a pellicle of membrane similar to that which forms in the throat. Even in people not suffering from the disease, but who are exposed to an atmosphere charged with the diphtheritic poison, sores or abrasions will undergo this change, and it is said that in this way an attack sometimes commences. What

it teaches us practically is this : that we should not apply blisters, or inflict even the most trivial wound, during the prevalence of an epidemic of diphtheria. Even the application of leeches should be avoided.

Diphtheria may cause death simply mechanically by suffocation, but the exhaustion occasioned by the intensity of the constitutional disturbance is usually an important factor. The duration of the disease may vary from forty-eight hours to fourteen days. When death takes place within a week from the first appearance of symptoms of illness, it is always preceded by the extension of the inflammation to the larynx. When death occurs as the consequence of the general disease, the fatal issue usually ensues during the second week of the disorder, unless, indeed, the patient has been greatly weakened by some previous illness.

During the progress of the case the kidneys not unfrequently become affected, and diphtheria may cause Bright's disease, just as scarlet fever does.

After recovery from an attack of diphtheria there is often paralysis of different parts of the body. As the paralysis is developed only gradually and slowly, it is seldom noticed until the second or third week from apparent recovery from the disease.

The soft palate is usually the first part affected, and difficulty is experienced in talking, swallowing, and expectorating. The voice becomes nasal and the sounds run into one another, so that it is no easy matter to understand the patient. In eating or drinking the food is always going "the wrong way," that is, it falls into the larynx, and is forcibly ejected during a violent fit of coughing. Very frequently fluids, instead of being swallowed, run out through the nose. The patient is almost unable to expectorate ; and should he get a cold on his chest his condition may become critical.

Sometimes the muscles of the eyes are affected and there is disturbance of vision. At first there is difficulty in reading fine print, the effort being attended with considerable discomfort and even pain. At a later stage the patient is found to squint, and he often sees everything double. After a time the paralysis may extend to the limbs and other parts of the body, so as quickly to reduce him to a condition of the most utter helplessness. The muscles of the neck may be involved, so that when the head falls backwards or forwards the patient is unable to lift it again without help. If the muscles of the trunk are considerably affected it becomes impossible for him to raise himself from the horizontal position, or to turn himself in bed from one side to the other, and when placed in a sitting posture he simply collapses. When the affection becomes so general as this, there is always a fear lest the paralysis should extend to the heart or to the muscles by which respiration is carried on. When the palate is the part affected, the food may enter the windpipe and cause sudden suffocation ; or it may pass into the lungs and set up inflammation. As a rule, however, a good recovery is made from all these paralytic symptoms.

What should be done when diphtheria breaks out in a family ? In the first place, send for the doctor. There is no disease in which the personal attendance of a medical man is more imperatively demanded. He will take the entire charge of the treatment, and you will not only have done the best for the sufferer but will have relieved yourself from a fearful responsibility.

Unfortunately, however, the attendance of a medical man is not always procurable ; and for the benefit of those who have to rely on their own unaided resources, we give a short sketch of the mode of treatment. In the first place the patient should be at once sent to bed, for early rest in these cases is of the utmost importance. The room should, if possible, be large and airy, and the greatest attention must be paid to ventilation. At least one of the windows should be kept constantly open for an inch or two at the top, so as to avoid any chance of stuffiness. It is a good plan to have plenty of carbolic acid and water placed in basins about the room. It may be used for receiving and disinfecting the discharges ; and a little occasionally sprinkled on the floor will do much to keep the air sweet. Means should be taken to isolate the patient ; and people who are not actually in attendance should not be allowed in the room, both for their own sakes and for the sake of the sufferer.

It is a good plan to give the patient plenty of ice to suck, in pieces of such a size that they can be conveniently and comfortably held in the mouth. Ice is useful in allaying the heat and pain in throat, and in checking that abundant secretion of mucus which is so annoying from the constant hawking which it occasions. Its beneficial effects are most marked when its use is commenced at the very onset of the attack, and it should be continued as constantly as possible until it has fairly declined.

During the whole of the illness the patient's strength should be carefully supported by the administration of strong beef tea, milk, raw eggs, and other nutritious diet.

The drug on which we place the greatest reliance is iron. It is, we believe, best given in the form of the solution of the perchloride of iron. The tincture of perchloride of iron is of the same strength and answers equally well, but it is made with spirit, and we may not always want to give alcohol. In the case of an adult, thirty minims should be given in an ounce of water every alternate hour, or half the quantity hourly. The dose for a child is ten drops every hour in a little water. These are large doses, but in diphtheria, as in erysipelas, iron, to do any good, must be given frequently and in considerable quantities. The taste is rough, and should it prove very objectionable, may be modified by the addition to each dose of twenty drops of glycerine.

We do not know exactly in what way the medicine acts. It may produce its beneficial effects either by coming in direct contact with the throat or by its general influence on the system. The solution of perchloride of iron does good when frequently painted over the back of the throat. Great pains must be taken to apply it very gently, or by increasing the inflammation it may do more harm than good.

In many instances the internal administration of the red iodide of mercury, in doses of $\frac{1}{60}$ grain, has been attended with the most favourable results. It should be given every alternate hour in a few grains of sugar of milk.

The question of the amount of stimulant that should be given is a very delicate one. The mere fact of the patient suffering from diphtheria in itself affords no grounds for the administration of alcohol. The stimulant should be given because the general condition of the patient requires it, and not because

he is suffering from any particular disease. In the slighter cases of diphtheria no stimulant at all is wanted; whereas in the more severe forms, where the patient's strength is utterly worn out, nothing but the free administration of brandy will enable him to weather the storm. Do not be in too great a hurry to give wine or brandy, or you may find when it is too late that you have thrown away your best card. Remember, too, that the mere fact of your getting down so much brandy does not prove that it is taken into the system, for it may remain in the stomach unabsorbed, and might just as well, for all the good it does, be outside the body. Feel the pulse, and if you find your stimulant strengthens it you may hope that it is doing good. In severe cases, attended with great prostration, as much as four or five ounces of good brandy may be given in the twenty-four hours, even to a child.

In the majority of cases of diphtheria it is not necessary to use gargles, but should the breath become very offensive they may have to be resorted to. One of the most useful is made by adding half an ounce of the solution of chlorinated soda to half a pint of water.

We must now consider the treatment to be adopted for the different forms of diphtheritic paralysis. When the paralysis is limited to one part, as the eye or palate, no very active measures are required, for the symptoms usually disappear of themselves in a few weeks. If, however, the patient is still a little out of health, and feels pulled down by his late illness, he will derive benefit from a course of tonics, and especially from iron (Prs. 2, 3, and 4) and quinine (Pr. 9). He should have a good nourishing diet, and should pass most of his time in the open air.

When, however, the paralysis involves several distinct parts it assumes a more serious aspect. As in the former case, we give the patient plenty of nourishment and some iron and quinine, but we do not let him take much exercise, preferring to keep him quiet and free from excitement. When the paralysis is no longer progressing, we cautiously apply electricity to the parts, using either what is called an induced or a constant current. In some cases doses of from one to five drops of tincture of gelsemium, given hourly in a little water, have been found materially to assist the restoration to power. This drug is especially indicated when the eye is affected and there is double vision.

When the palate is involved to such an extent that the patient loses either entirely or in a great measure the power of swallowing, we may find it necessary to feed him for days and days together either by injections into the bowel, or by means of the stomach pump. We do this for two reasons—firstly, because when an attempt is made to take food in the ordinary manner the smaller particles are apt to go the wrong way and pass into the lungs, and set up inflammation of those organs; and secondly, because such a small amount of nourishment is taken that the patient is in danger of dying of starvation.

Of late years, hypodermic injections of strychnia have been frequently used in the paralysis following diphtheria, and very favourable results have been obtained. The quantity injected is six drops of the British Pharmacopœia solution of strychnia, which is equivalent to one-twentieth of a grain. The injection

should be made into the muscles every second day, or even daily. This, of course, is a method of treatment which could be practised only under the immediate superintendence of a medical man.

It must be distinctly understood that the remarks we have made concerning the treatment of diphtheria are for those only who are unable to obtain personal medical advice. There are many different methods of treating this disease; and if the plan adopted by the doctor in attendance is at variance with the directions we have laid down, it should be remembered that one who has had the opportunity of seeing and examining the patient is likely to prescribe better for him than one who has not.

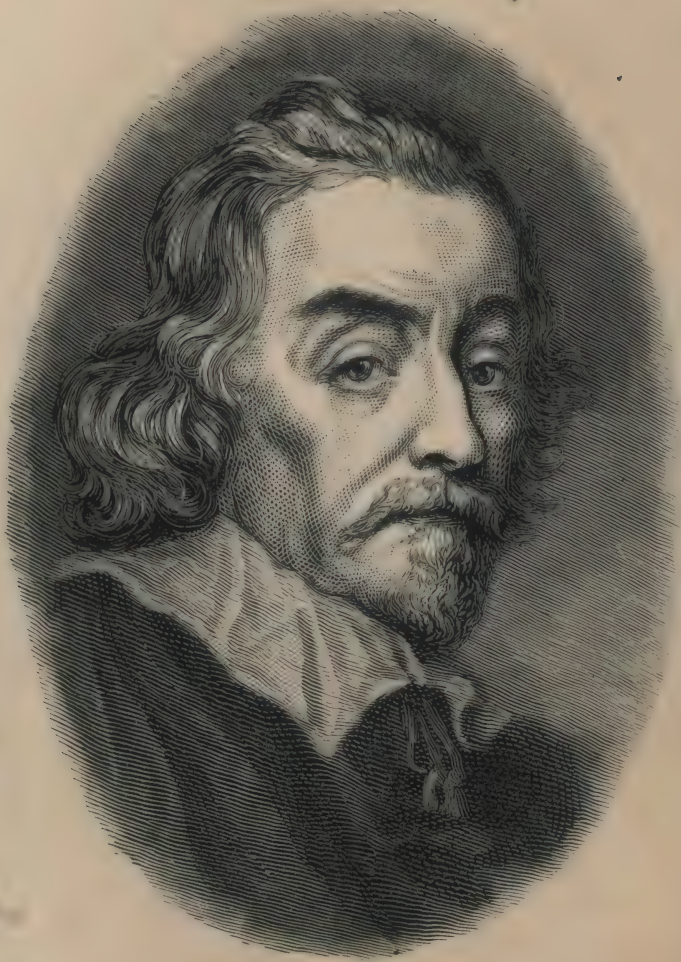
Sometimes the amount of obstruction caused by the membrane in the throat is so great that the windpipe has to be opened to admit air and prevent the patient from dying of suffocation. The operation, which is technically known as "tracheotomy," was performed by Trousseau in more than two hundred cases, and of these a quarter recovered. An eminent authority thus describes an instance in which tracheotomy was performed on the person of a physician ill with diphtheria:—"There is not a shadow of doubt," he says, "on my mind that he would have been dead in two minutes had his larynx not been opened at the moment it was. I never saw any one so manifestly brought back from the threshold of death. His complexion had the bluish pallor that precedes immediate dissolution. My hand was on his wrist. I felt his pulse failing under my finger, until at last it was imperceptible. His eyes closed, and his diaphragm was making those convulsive contractions which indicate that respiration is about to cease, when the knife entered the larynx, and air was drawn, by what really seemed the last effort of the diaphragm, into the lungs. The natural hue of his face returned; his pulse was again perceptible; his eyes opened; consciousness was restored, and the patient was alive again. He finally recovered. Now, a thousand failures of the operation in saving life cannot, after seeing this case, prove to me that tracheotomy ought not to be performed when suffocation is imminent from the presence of lymph in the larynx or trachea; for here is a man whose life was invaluable to his family and most useful to society restored to health, who, but for the operation, would have been dead."

When the softer parts of the chest recede whilst a breath is being taken, or the patient looks ever so slightly blue or livid, it is to be regarded as an indication that there is some obstruction to the free entrance of air into the lungs, and the doctor, if not present, should be at once sent for.

At the conclusion of a case of diphtheria, whether it terminate favourably or unfavourably, the room in which the patient has slept should be thoroughly disinfected.

DROPSY.

Dropsy is regarded by medical men rather as a symptom of disease than as a disease itself. It consists essentially in the accumulation of fluid, either beneath the skin or in one or more of the large cavities of the body. It is known by different names, according to the situation in which it is found. Thus, when the brain becomes distended with fluid, as it does sometimes in children, we call it "hydrocephalus," and the patient is said to have water on the brain, or to be "hydrocephalic."



WM. HARVEY, M.D.

When the fluid accumulates in the membrane which lines the chest or thorax and covers the surface of the lung, the condition is known as "hydrothorax;" and when it collects in the pericardium, or membrane of the heart, it is called "hydropericardium. Sometimes the liquid accumulates in the belly, and then we speak of it as "ascites." When the limbs and body are distinctly swollen from the accumulation of dropsical fluid beneath the skin, the patient is sometimes said to be suffering from "anasarca." By "general dropsy" is usually meant a combination of anasarca with dropsy of one or more of the large cavities to which we have referred.

Dropsy may be due to many different causes. Thus, it may arise from disease of the heart, or from disease of the liver, or from disease of the kidneys—more especially from the form of kidney disease which we have already described under the name of "Bright's." The way in which these complaints produce effusion of fluid is in all probability by increasing the pressure of blood in the vessels—the arteries, and veins, and smaller vessels called capillaries; so that its more fluid portion infiltrates or is squeezed through their walls. It is easily understood that if the kidneys are diseased they cannot throw off the water from the system, and the blood-vessels get too full. The same thing happens in disease of the heart, for that organ may be so weakened and may perform its functions so imperfectly as to be unable to push on the blood, and an obstruction with increased pressure is the result. In disease of the liver, dropsy usually begins in the form of ascites, or effusion into the belly, and the explanation of this is that the liver contracts and narrows the calibre of the blood-vessels, so as to increase the pressure of the blood and squeeze out the fluid.

The influence of obstruction to the circulation in producing dropsy is well seen in the case of the complaint known as "white leg," which is common in women soon after child-birth. The foot, leg, and thigh become enormously distended. The essence of the complaint is inflammation of the vein of the thigh, precluding or retarding the return of blood from the limb. Again, in pregnancy, the womb sometimes presses upon some of the large veins in the belly, obstructing the current of blood in them, and in this way giving rise to dropsy of the lower extremities. It is but a temporary condition, and soon disappears after the confinement. Sometimes effusion of fluid is so strictly localised as to be confined to one joint, as the knee or elbow, but then it is nearly always due to some injury to the part, as a blow or sprain, and is not the result of any constitutional disease.

It is quite conceivable that we may get dropsy without any increased pressure in the blood-vessels, and this undoubtedly does sometimes occur. Thus, in cases of marked anæmia, the blood may become so thin that its fluid part filters through the blood-vessels independently of any unusual pressure, and in this way gives rise to dropsy. It is, we think, not generally known that very extensive dropsy may be dependent solely on the presence of anæmia. Many women suddenly become dropsical as the result of flooding, and this condition rapidly disappears when the quality of the blood improves. A sharp attack of diarrhœa has been known to give rise to a temporary dropsical effusion.

There is seldom any difficulty in recognising the presence of dropsy. The limbs are commonly increased in size; they are soft and inelastic, and when they are pressed upon with the finger a little pit or depression is left. Usually there is

undue pallor and a peculiarly white glistening appearance of the skin ; but in chronic cases, where the effusion of fluid is great, the skin often becomes smooth, shiny, and of a dull red or purple colour. In some situations—as over the shin-bone, for example—it gets livid or blackish, and may even be broken, so that sloughs form. The water of dropsy is liable to change its place in obedience to the force of gravity, so that when the patient is up and about the swelling usually first becomes visible in the feet and ankles. In the morning, after the horizontal position has been maintained for some hours, this probably disappears, but the neck and face become bloated and puffy. The feet towards evening usually swell more than the hands ; and for a very obvious reason, for the hands receive the dropsical fluid from the arms alone, but the feet that which sinks down not only from the legs and thighs, but from the head and trunk as well.

The principal symptoms attendant on dropsy are those of the disease to which it owes its origin, but the effusion may itself give rise to the most distressing consequences. Thus, a large accumulation of fluid in the abdomen often by its pressure impedes the action of the heart and lungs, causing painful shortness of the breath. The patient may, on this account, be unable to lie down, and the fatigue, sleeplessness, and exhaustion so caused may materially aggravate his sufferings. Other symptoms frequently associated with the different varieties of dropsy are palpitation, dryness of the skin, excessive thirst, vomiting, and constipation. The pain and inconvenience arising from swollen legs need only be mentioned.

We will now consider the treatment of dropsy. It may, perhaps, be urged that it is unsound in principle to treat, or endeavour to treat, what is confessedly a mere symptom, instead of directing our attention to the disease on which it depends. This is quite true, but it must be remembered that in many cases the original disease is beyond the reach of our art ; whilst in almost every case, even if only temporarily, we are able to relieve many of the most distressing symptoms by getting rid of some of the effusion.

In the majority of cases, we endeavour to promote the discharge from the body of the superabundant fluid by purging the patient or by increasing the action of the skin or kidneys.

Bitartrate of potash often proves very useful from the copious watery stools it produces. It is especially serviceable in dropsy arising from Bright's disease, as it tends to prevent watery accumulation to a dangerous degree beneath the skin, or in the cavities containing the more important organs, as the heart and lungs. With the water, too, it draws off many of the effete and poisonous matters which in this disease are retained in the blood. Jalap may be used for the same purpose as the bitartrate of potash, and it is often convenient to administer them together. A powder, composed of twenty grains of compound powder of jalap, with ten grains of bitartrate of potash, forms an efficient combination (Pr. 98). This dose, which is intended for an adult, may be taken every alternate morning for a week. It should be borne in mind that free purging has always a tendency to reduce the strength, and care should be taken to see that it does not become excessive.

Resin of copaiba acts powerfully on the kidneys, and in the majority of cases proves of considerable value in the treatment of dropsy. In some instances it has

been known to completely cure ascites, or dropsy of the belly. It is of the very greatest value in nearly all forms of dropsy resulting from Bright's disease or kidney mischief, and will often succeed admirably even when the heart is the organ at fault. The resin of copaiba may be made up into pills, each containing five grains, two of which should be given three times a day. Spirit of juniper has an action which is especially directed to increasing the flow of water from the kidneys, and is on this account valuable in many forms of dropsy. It is especially indicated in dropsy following scarlatina. It may be given either alone in water, in thirty-drop doses every four hours, or, as it is contained in both Hollands and gin, it may be taken in that perhaps more agreeable and accessible form.

Tincture of squill, in doses of from fifteen to twenty drops in a little water every four hours, has been found useful in nearly all kinds of dropsies. It acts chiefly on the kidneys.

In many forms of dropsy, especially those dependent on heart disease, digitalis or foxglove is a most valuable remedy. Its administration is especially indicated in the following class of cases :—There is dropsy, which is often extensive; the breathing is short, especially at night, and is often so bad that the patient cannot lie down in bed, and has to take his rest sitting up in an arm-chair. The pulse is quick, feeble, fluttering, and irregular, and the urine is deficient in quantity. On measuring it, it may be found to amount to not more than half a pint in the twenty-four hours; it is high-coloured, and gives a copious deposit on cooling. Under these circumstances, digitalis usually gives speedy relief. It should be given in doses of one fluid drachm of the infusion of digitalis of the British Pharmacopœia twice a day. Any chemist will make the infusion, and it is essential that it should be quite freshly prepared. Digitalis is a powerful remedy, and it is advisable not to increase the dose we have indicated, or to give it more frequently than twice in the twenty-four hours, unless under the immediate direction of a medical man. The effects of this method of treatment are often very marked, and we can testify to the favourable results which frequently ensue. The pulse usually grows considerably stronger, more regular, and much slower, till in many cases all irregularity ceases, and it becomes natural both in frequency and rhythm. At the same time, the urine increases to one, two, four, or even eight pints a day; and in proportion to the increased flow the dropsy diminishes, until it finally disappears. In these cases it is necessary to give some stimulant, and gin and water or gin and seltzer, from its action on the kidneys, is best adapted for this purpose.

Arsenic is a useful remedy in many forms of dropsy, especially in dropsy of the hands, face, and feet, arising from disease of the heart. It does least good when the dropsy is confined to the belly, and depends on disease of the liver. It is especially indicated in the following class of cases :—There is much general debility, with rapid emaciation and anxious depression; constriction and oppression of the chest, and a sensation of suffocation, are experienced on attempting to lie down; the skin is dry and pale or burning and itching, and sometimes it peels off in large flakes; the tongue is red and parched, sometimes with excessive burning thirst; the pulse feeble and irregular, and the extremities cold. Arsenic often increases the flow of urine to an astonishing extent, after which the dropsy disappears. It may be

administered in the form of the arsenic mixture (Pr. 40). Its action is usually prompt, and if it does no good in a few days it will be useless to continue its administration.

Hellebore often proves valuable in cases of water on the brain, and when there is effusion of fluid into the chest. It may be administered in doses of from ten to fifteen drops every four hours.

Apocynum cannabinum.—An American plant; has been highly recommended in the treatment of dropsy, and its administration is said to have been followed by the most favourable results. The precise indications for its employment are at present not thoroughly understood, but it has been known to succeed where almost everything else has been tried in vain. It should be given in the form of a tincture, prepared from the fresh root, the dose being five minims three times a day, or oftener. We have derived no benefit from the use of preparations made from the dried root.

In some cases of dropsy benefit is experienced from the Turkish bath, but this method of treatment should be adopted with a certain amount of caution. It is indicated in dropsy arising from kidney disease, when there is but little action of the skin; but it should not be employed when there is heart disease.

There is a drug, known as *Jaborandi*, which has the power of producing profuse perspiration. A single two tea-spoonful dose of the tincture should be given, once or twice a week, in water. The patient should be in bed between the blankets, which should have been previously warmed by a hot water-bottle or warming-pan. The perspiration usually commences in about ten minutes, and may last an hour or more. A single dose often reduces the amount of dropsy in a manner which is little less than marvellous. The only objection is, that it often makes the patient expectorate freely. The saliva should not be swallowed or it may cause vomiting. The tincture of *jaborandi* is obtainable from almost any chemist. It may be taken without the slightest hesitation, for it never causes more than a temporary inconvenience. When the sweating is over, the skin should be quickly rubbed dry, and the damp blankets exchanged for warm ones. In many cases of dropsy, dependent on kidney disease, we have seen the remedy act like a charm. With one man especially it succeeded when almost everything else had been tried in vain. The drug has been comparatively recently introduced, and is yet but little known to medical men.

In some cases where dropsy effusion is very great it may have to be let out by mechanical means.

Dropsical subjects are generally benefited by removal to a dry and moderately warm atmosphere. A damp climate or soil usually proves particularly unfavourable. In chronic cases every effort should be made to support the strength. In the majority of cases the attendance of a medical man is necessary.

DYSENTERY.

A couple of hundred years ago dysentery raged like a plague in London; now-a-days a physician may pass through a long hospital career without

having half a dozen cases under his charge, save those which have been imported from abroad. In most tropical regions, at certain seasons of the year, it is very prevalent and destructive; but it is in fleets and armies, and more especially among troops on active service, that it most frequently displays its terrible power. In all ages armies and garrisons have been peculiarly liable to suffer from it, and the records of campaigns and military marches are full of accounts of its devastating ravages. It is often said that there is no disease which is so crippling to an army in the field as dysentery. It is the most fatal of all their diseases, and is often spoken of as "the scourge of armies."

What are the causes of this frightful malady? One of the commonest exciting causes is cold, especially when combined with moisture. It is of frequent occurrence amongst people who are exposed to the cold dampness of night after having been heated during the day. It is very common among the seamen serving on the rivers in the aguish districts in China. We are told that the men, when they lie down on the deck to sleep, pull up their frocks and coarse under-flannel jackets, so as to expose the abdomen. When the cool night wind sets in, the exposed skin of the sleepers, from being bathed in perspiration, becomes dry and finally chilled, and in a very short time they awake to find themselves suffering from the early symptoms of an attack of dysentery.

Another cause is impure water. For example, nearly every person, native or European, who visits Calcutta, suffers from some kind of bowel complaint. The seafaring men who obtain their supply of drinking water by buckets let down over the sides of their ships are said to be the greatest sufferers. We are not surprised to hear this when we learn that opposite the town the water is frightfully impure, and that it receives every day some 40 tons of excreta, besides a multitude of dead cattle, and about 15,000 corpses yearly.

Substances which act as direct irritants to the bowels may act as exciting causes. All kinds of indigestible foods are credited with this power, as are also acid and imperfectly fermented alcoholic drinks, such as cider, weak wines, and malt liquors.

By some eminent authorities it is considered that dysentery is due to the entrance into the system of a marsh poison similar to that which causes ague. They urge in favour of this view that although the ordinarily accepted causes are in constant operation in this country, yet we never suffer from the disease. They believe that the disappearance, both of ague and dysentery, from the metropolis is the result of the improvement in our sanitary conditions.

Dysentery attacks indiscriminately persons of both sexes and all ages, and if one class of individuals is affected more than another it is probably owing to their greater exposure to the cause of the disease. It is more prevalent in summer and autumn than in winter, and in hot than in temperate climates. It is frequently found in those countries in which ague is prevalent; and strangers are more likely to be attacked than natives.

Dysentery is not contagious, or at all events its contagiousness is very slight. When once established, it is propagated by the effluvia from the evacuations of those affected. Sometimes it occurs as an epidemic, but more frequently it is confined within small and often very accurately defined limits.

Several different varieties of dysentery are spoken of, but they in reality pass by such insensible gradations the one into the other, that it will be sufficient for our purpose to describe an ordinary simple acute case. The patient, in all probability, gets chilled by careless exposure to the cold night air in an aguish district. The chill is succeeded by slight heat of skin, loss of appetite, and a feeling of nausea. These are followed by griping pains in the belly, irregular in their position and periods of return, but attended with discharges from the bowels, by which they are partially relieved. The action of the bowels is accompanied by most distressing straining, which quickly becomes one of the prominent features of the case. From the first the stools are very offensive, the smell, which has been described as "the most offensive of all organic effluvia," being characteristic of the disease now under consideration. After a time the calls to stool become more urgent and frequent; the patient is hardly in bed ere he desires to rise again, each time convinced that he is about to pass something which will relieve him. At last he can hardly be induced to leave the stool: he remains on it, and strains involuntarily. After the first few evacuations, which may have the appearance of ordinary motion, the stools are very small, and consist of transparent or whitish mucus, or of mucus mixed with blood, and sometimes even of almost pure blood. With these are little shreds or patches of membrane. As the disease progresses, the patient becomes irritable and depressed, and the countenance indicates suffering and despondency. If no improvement takes place, the stools become of a brownish colour and very copious, causing the most terrible exhaustion. The distressing straining and griping cease, and the patient, misled by the absence of pain, often thinks that he is on the high road to recovery. By-and-by his mind begins to wander, and, as if in some degree to compensate for past sufferings, his delirium takes pleasing forms, and he dies exhausted, without more pain. In more favourable cases, treatment steps in and averts the fatal termination, or the disease takes a favourable turn, and the patient recovers.

Sometimes, however, the patient neither dies nor completely recovers, for the disease becomes chronic. The discharges still maintain somewhat of their offensive odour, are for the most part fluid, and mixed with blood and slime. Sometimes they are pale and frothy, and are voided with considerable force. The general health is poor, night sweats are frequent, the hair drops off, boils are common on all parts of the body, and the patient ages rapidly.

There is seldom any difficulty in distinguishing dysentery from ordinary diarrhoea. The excessive griping and straining, the presence of blood and slime in the stools, and, above all, their peculiar odour, serve as distinctive characters.

Fortunately, dysentery is a disease for which we have a remedy, which is almost a specific, and that remedy is ipecacuanha given in large doses. The earlier the patient is submitted to treatment the more likely are we to succeed in our efforts to check the progress of the disease. In tropical climates, more especially, it is impossible to over-estimate the importance of prompt treatment. The patient should be at once put to bed, and brought under the influence of the drug. From twenty-five to thirty or even sixty grains of powdered ipecacuanha should be at once administered in as little fluid as possible. It may be thought that so large a dose would produce vomiting, but if the patient keeps perfectly quiet, and takes neither food nor

drink of any kind for about three hours, the medicine seldom causes any inconvenience. Some people precede the ipecacuanha by a dose of thirty drops of laudanum, to prepare the stomach, as they say, for its reception ; but this is quite unnecessary, and involves the loss of valuable time. Should the ipecacuanha, however, be rejected in spite of all precautions, it must be given in the form of an injection. The effects of the medicine in suitable cases are almost instantaneous, the motions even in the worst cases becoming natural in frequency and character. Very frequently, ninety grains of the ipecacuanha will cut short at once severe attacks of dysentery, not only restraining the discharge, but immediately freeing the patient from pain, and removing the straining and griping. After a dose of sixty or ninety grains, an interval of ten or twelve hours should be allowed to elapse before repeating it, and should the bowels in the meantime have remained quiet, even the second dose may be unnecessary. When only twenty or thirty grains have been given, the dose may be repeated in about eight hours, the precautions respecting perfect quiet and abstinence from food and drink being observed as before. After taking the medicine, the patient often falls asleep, and awakes refreshed, and in fact quite another man. As a matter of precaution, smaller doses of the ipecacuanha—say ten, five, or three grains—should be given daily for some days. No other treatment is, as a rule, necessary ; but a large mustard poultice applied over the abdomen often proves grateful to the patient. During the acute attack no solid food should be given, but the patient's strength should be supported by milk and similar unirritating diet. The disposition to relapse, which is so common in acute dysentery, is seldom observed after this method of treatment, a point of no small importance.

The treatment should always be commenced with ipecacuanha, but in some epidemics it is less successful than in others, and it is consequently an advantage to have other methods of treating at our disposal. Mercury given frequently and in small doses often proves successful. A tea-spoonful of the mixture (Pr. 48), given hourly or every two hours, according to the severity of the case, rarely fails to free the stools from blood and slime, although a diarrhoea of a different character may continue for a little while longer, and perhaps require other remedies for its removal.

When the motions contain much blood, the tincture of *hamamelis virginica* may be given hourly in drop doses, with the view of arresting the hæmorrhage, or Pr. 45 may be employed.

In chronic dysentery both ipecacuanha and mercury may be used with almost as much success as in the acute form. The precautions we have enjoined after taking the ipecacuanha should be strictly observed. Chronic dysentery, however, is an obstinate disease, and we cannot have too many strings to our bow, so we will consider what other drugs will do for us. Alum often proves of service, and acetate of lead in five-grain doses every four hours is a good remedy (Pr. 30).

The solution of per-nitrate of iron does admirably in the case of men returning to this country from tropical regions, more especially when they are suffering from anæmia, as the result of loss of blood and the depraving influence of malaria. It should be given in thirty-drop doses three times a day in a little water. Under the influence of this remedy the whole system often rallies wonderfully, colour returns

to the blanched cheek, the stools become more natural and less frequent, the appetite improves, and digestion is more perfectly performed.

Sometimes an injection of a pint of water in which ten or twenty grains of sulphate of copper—our ordinary “blue-stone” or “blue vitriol”—have been dissolved, will answer admirably. Above all, it is most important that the patient should get a change of air, and if he is residing in a malarious district he should be at once removed to the sea coast, or should be recommended, if it be possible, to take a sea voyage.

Before leaving the subject of dysentery, we must point out the necessity of receiving the stools into a vessel in which they can be immediately mixed with some disinfecting fluid. In the country they should be at once removed from the house, and carefully and deeply buried.

EAR.—DISEASES OF THE EAR.

Foreign Bodies in the Ear.—Children not unfrequently poke such substances as peas, glass beads, and buttons, into the ear. They may generally be removed by a little gentle syringing with tepid water. Before taking any active measures it is very necessary to see that there is actually some foreign body present. Stories are told of doctors who have spent hours trying to extract some substance from the

ear, the existence of which has subsequently proved to have been imaginary. Children are often brought to the hospital on the supposition that they have a pea or something in the ear, when an investigation serves to disclose the fact that there is nothing

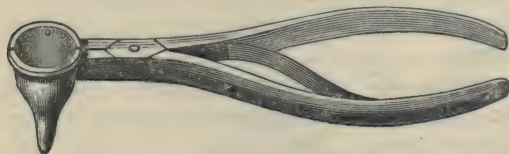


Fig. 3.—EAR SPECULUM.

there. For an examination of the ear, an ear speculum is invaluable. It is a tube made of bright metal and of the shape shown in the accompanying figure (Fig. 3). No difficulty will be experienced in using it. The patient is made to sit or stand in a good light, and the smaller end of the speculum is then introduced into the passage of the ear. This is readily effected by gently drawing the ear upward. Not only will any foreign body be at once seen, but its position will be at once distinctly made out, and this may, in a great majority of cases, facilitate its removal. When the ordinary process of syringing fails to accomplish the desired object, the patient may be made to lie down with the head projecting over the side of the bed or couch, the ear being in the most dependent position, and then syringing may be again resorted to. We thus call into play the action of gravity, and there is a much greater chance of our efforts proving successful.

When the return current of water is not sufficiently powerful to remove the body, it may be necessary to use a small pair of forceps, or a piece of bent wire. Instruments, however, should not be introduced into the ear without a certain amount of caution, for the foreign body is just as likely to be pushed in farther as to be

removed. When syringing fails, the best thing is to go to a surgeon. In some cases considerable ingenuity is required to extract the foreign body from the ear. In one instance a small ivory ball had been detached from the top of a pen-holder in the ear of a little boy. Syringing had done no good, and the forceps failed to grasp it and only pushed it in further. At last it was extracted by bringing the point of a small brush, dipped in glue, in contact with its surface, allowing the glue to harden, and then removing brush and ball together. This is a hint that might be of service in difficult cases. It must be remembered that a foreign body may remain in the ear for a very long time without doing any harm. A few hours' delay, or the delay of even a day or two, is a matter of no moment. The only exception to this is the case of peas or seeds, and these sometimes swell considerably under the combined influence of warmth and moisture. Unskilful efforts to extract a foreign body may cause rupture of the membrane of the ear, and may in this way give rise to permanent deafness. The case is recorded of a nurse who, having failed to remove a button from a child's ear, actually *tried to push it out the other side*. We need hardly say that not only would such a thing be impossible, but such treatment is highly dangerous. In the case in question inflammation of the membranes of the brain was set up, and the child died. Insects occasionally get into the ear, when all that is necessary is to pour in a little water, when the intruder either crawls out or is drowned.

Accumulation of Wax in the Ear.—This is a very common cause of deafness. The patient usually complains of loud noises and a feeling of discomfort, with more or less defect of hearing. The wax may usually be removed by syringing. Even in such a simple operation as syringing the ears there is a right and a wrong way of doing it, and if not skilfully performed but little benefit will be experienced. It is almost impossible to do it satisfactorily yourself, and you



Fig. 4.—METHOD OF SYRINGING EAR.

must try and get some one to do it for you. The external ear should be drawn upwards with the left hand, so as to make the passage almost straight; and the nozzle of the syringe, which should be small, should be directed against the roof. The syringe should work easily and accurately, so that no air-bubbles are squirted in. A little vessel about the size of a finger-glass should be

held by the patient under the ear so as to catch the water as it flows out. It will answer much more effectually than a large basin, and there will be no necessity to use towels or napkins to prevent the neck and shoulders from getting wet. Many

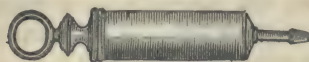


Fig. 5.—SYRINGE.

people prefer a tin pan with a concavity on one side, so that it may be made to fit in nicely under the ear. The syringe to be used is of the ordinary form, as shown in Fig. 5, and it

may be made of either brass or gutta-percha. Care must be taken not to introduce the nozzle too far, or there may be danger of injuring the drum of the ear. The syringe may be obtained from any instrument-maker, or your chemist will procure it for you. It is best to use plain water, and it should be just warm enough to be comfortable.

The water injected should be clean and in a separate basin, and on no account should the dirty water be used over again. In ordinary cases the wax may easily be dislodged, but if it has been there for a long time, perhaps for years, and becomes, as it will do sometimes, of almost stony hardness, its removal is not so easily effected. In this case the patient should lie on the opposite side for a time, and have the ear filled with water so as to let the wax soak and become softened. Sometimes it becomes so hard as to render it necessary to pour in water or oil—it matters little which—on several successive nights. It is well not to use the syringe for too long at a time; and at intervals during the proceeding the ear should be examined with the speculum to see if all the wax has been removed. This is very essential, for syringing directly on the drum of the ear when there is nothing to bring away is not unlikely to set up inflammation. Violent syringing is never advisable, and is far more likely to do harm than good. Wax in the ear sometimes gives rise to what is called “ear-cough.” Cases are on record where a distressing cough has persisted for years, and defied all treatment until, by some fortunate chance, attention has been directed to the ear, the accumulated wax removed by syringing, and a cure at once effected.

Eczema of the Ear.—Eczema occurring on the outer ear is a very common complaint. The symptoms are in the main those of eczema of other parts of the body. There are redness and swelling, with the formation of little vesicles, which, on bursting give rise to an unsightly crust, from which a discharge occurs. The auricle may, in severe cases, become a mis-shapen mass, and the disease may extend into the passage of the ear, so as greatly to impair the hearing. Fulness and noise in the ears are then added to the other symptoms, and the patient suffers great distress. When left to itself it is apt to run a very chronic course. It occurs chiefly in those of weakly constitution, and is usually associated with eczema of some other part of the body.

When there is much inflammation, and when the surface is raw and weeps copiously, a lead lotion not only allays the inflammation, but checks the discharge and quells the itching, burning, and tingling so often accompanying this condition. Two or three drachms of the strong solution of sub-acetate of lead in ten ounces of water is generally sufficient; but a stronger lotion, consisting of two ounces of the lead solution, two ounces of glycerine, and four ounces of water, sometimes

proves more successful. If the inflammation is great and the weeping abundant, the rash must be constantly covered with rags soaked in the lotion. In some cases it is useful to apply a poultice at night and the lotion during the day. The stronger lotion is especially useful when there is no weeping, but itching and tingling are prominent symptoms. The part should be sponged with the lotion several times a day.

In the acute stage, too, frequent bathing with warm water proves peculiarly grateful, allaying inflammation and itching. Rain or boiled water should be used, or the water may be made more soothing by the addition of a small piece of common washing soda, or a little gelatin, bran, or potato-starch. The part must be dabbed dry with a soft towel. When the part is highly inflamed, red, and swollen, linseed-meal poultices applied hot, and removed as soon as they become cool, do much to alleviate pain.

Lime-water is a nice soothing application, and will do much to ease smarting and tingling; it is especially useful when there is an abundant discharge. When the inflammation has been subdued, an equal quantity of glycerine may be added to the lime-water.

In more chronic cases zinc ointment proves useful. It is a mild stimulating application, and may be employed when, inflammation having subsided, the raw surface is left in an indolent condition, with very little disposition to heal. When there is but little inflammation carbolic acid ointment, made with ten minims of the acid to an ounce of lard, moderates the weeping and allays the tingling and itching. Petroleum soap, coal-tar soap, and carbolic soap, are useful in very chronic cases. As these soaps are made of different strengths, if one kind proves too strong and irritating, a milder form may be substituted.

The passage of the ear will have to be syringed out with warm water. When there is much active inflammation going on this may have to be done almost hourly, but in more chronic cases twice or thrice daily will suffice. It always allays itching, and usually proves very grateful. The ear speculum will have to be employed to see what progress is being made. The use of warm water alone will sometimes cure most obstinate cases of inflammation of the canal that have existed for years.

So far we have recommended only local applications, but there are several remedies which do good when taken internally. One of the best of these is arsenic (Pr. 40). It is useful in very chronic cases. Rhus toxicodendron is regarded by many as almost a specific for this complaint. Its use is especially indicated when there is much itching, which is worse at night. When there is marked constitutional weakness it will be necessary to give remedies directed to the improvement of the general health, such, for instance, as cod-liver oil, iron and quinine.

Inflammation of the Internal Ear.—This may arise from exposure to currents of cold air, sea-bathing, violent syringing, probing, or other similar causes. It not unfrequently follows an attack of fever, especially scarlatina. It occurs most frequently in weak, neglected, or unhealthy children. The symptoms are sudden and intense pain in the ear, increased by coughing, sneezing, or swallowing; a feeling of fulness in the ear; tenderness and soreness in its vicinity; noises in the head; deafness either partial or complete; a high fever, indicated by elevation of

temperature, quick pulse, &c. If the inflammation progress matter may form in the interior of the ear, the tympanic membrane may ulcerate or burst, and there may be a considerable discharge externally. In a disease of such severity it need hardly be said that energetic treatment must be resorted to. The sooner that aconite is given the better. A drop of the tincture should be taken in water every ten minutes for the first hour, and subsequently hourly, until the inflammation has been reduced, or Pr. 38 may be employed. Hot fomentations or poultices may be employed externally. Should there be any discharge scrupulous cleanliness must be observed. The ear should be frequently washed out, and then gently but thoroughly dried. A doctor had better be called in, but no time should be lost in administering aconite, for in all cases of inflammation that is our sheet-anchor.

Perforation or Rupture of the Tympanic Membrane.—This may be caused by blows on the head, by boxing the ear, by violently blowing the nose, by injudicious syringing, by the introduction of probes, as in attempts to remove a foreign body; by going down in a diving-bell; and lastly, by loud noises, such as the discharge of cannon. When the rupture takes place suddenly there may be a sense of shock in the ear, as if something had given way, accompanied by bleeding and deafness. In many cases perforation occurs as the result of inflammation of the internal ear, matter being discharged through the opening. It often follows scarlet fever. A person whose membrane has been broken is able to force air out of the ear in blowing the nose. People who in smoking can make the smoke come out of their ears have met with this accident. The hole in the membrane can often be distinctly seen on using the ear-speculum. When the aperture is small its situation may be indicated by air-bubbles and mucus issuing from it on blowing the nose. When the opening is large it gives rise to considerable deafness, but when small it may cause very little inconvenience. Fortunately, much may be done in the way of treatment. If inflammation still remain it must be subdued in the manner already indicated. When there is much discharge, syringing with warm water should be resorted to, so as to keep the parts sweet and clean. When the ground has been cleared by this preparatory treatment, it is necessary to resort to more direct measures for the restoration of hearing. A capital plan is to take a little bit of cotton-wool moistened with water or oil, and to pass it down to the membrane so that it will block up the hole. It is easy to learn how to introduce and withdraw this cotton for yourself by means of a bodkin or pair of forceps, and to place it exactly in the right spot. Sometimes a drop of glycerine placed in the ear temporarily closes the aperture, and does as much good as anything.

Running from the Ears.—This is one of the commonest affections of the ear. It, in the majority of cases, is accompanied by perforation of the tympanic membrane. In weak, sickly children it sometimes follows an ordinary cold. It most frequently results from scarlet fever, but it may come on after measles, whooping-cough, or in fact any exhaustive illness. It will be found that children suffering from a running at the ears frequently put their hands to them and rub them, as if they felt that there was something wrong there. These children cry, too, when their ears are washed, and usually they dislike being jumped or suddenly moved. Often there is great pain, both on blowing the nose and on swallowing;

and on examination it will be found that there is deafness more or less complete. When there is acute inflammation of the ear, as indicated by a general condition of feverishness and elevation of temperature, aconite (Pr. 38), as we have already seen, is the appropriate remedy. In chronic cases—when the discharge has existed for some weeks or, perhaps, months—local applications must be resorted to in addition to constitutional treatment. One of the best remedies for discharge from the ears occurring in children after a severe illness, is glycerine of tannin. The passage of the ear is to be filled with it, and it should be retained there by a piece of cotton wool. One application usually suffices, but a slight discharge may remain, or it may return in a few weeks, when a repetition of the application is necessary. This treatment is inapplicable when there is severe inflammation, but it succeeds admirably in old-standing cases. An injection made by dissolving a drachm of alum in a pint of water often does good, although, as a rule, it will be found to be inferior to glycerine of tannin. When there is still active inflammation in the ear, common lime-water forms an excellent injection. A very useful wash for these cases is made by adding from one to two drachms of tincture of pulsatilla to four ounces of water.

In every case of running from the ears, it is of very great importance to pay strict attention to cleanliness. The irritating discharge, if allowed to accumulate, undergoes decomposition, and may give rise to much mischief. The intractable character of this affection is often in a great measure due to want of care. When there is much discharge it is never safe to put cotton wool into the ears with the view of preventing its escape. We are told of an itinerant quack who used to “cure” this affection by blocking up the passage of the ear with plaster of Paris. Such treatment is not at all unlikely to prove fatal.

Attention to the general health is of the utmost importance. Children suffering from this complaint should be fed well, and should get plenty of out-door exercise. Cod-liver oil proves beneficial, but often a few weeks at the seaside will do more good than anything.

Earache.—This may arise from inflammation of the ear, and is then to be treated in the manner already indicated. When the pain is very severe, relief may often be obtained by placing a hot linseed-meal poultice, sprinkled with twenty or thirty drops of laudanum, over the ear and adjacent parts. Should this fail, the ear may be rubbed all round with a mixture of equal parts of extract of belladonna and glycerine. Sometimes a few drops of chloroform sprinkled over a pocket handkerchief and then held against the ear will do good. Often enough earache arises from neuralgia, and not from inflammation at all. Earache caused by neuralgia may be distinguished from the earache of inflammation by the sudden intensity of the pain, which is throbbing, does not progressively increase in severity, and comes and goes capriciously. If there is any doubt or difficulty, the thermometer will at once settle the question: in neuralgic earache the temperature is normal, in pain arising from inflammation of the ear there is a marked elevation of temperature. The treatment of neuralgia of the ear is the same as for other kinds of neuralgia. When the patient is pale, and suffers from poorness of blood, a course

of iron (Prs. 1, 2, 3, 7, or 63) may afford relief. The strong quinine mixture (Pr. 10) frequently proves efficacious in these cases. Often enough neuralgic earache depends on decayed teeth, and then either they should be extracted, or gelsemium (Pr. 41) should be given. Five grains of croton-chloral-hydrate dissolved in an ounce of water and taken every four hours for some days, is an excellent remedy. It is not the same as common chloral, and acts quite differently.

Singing in the Ears.—This is a most distressing symptom which often attacks those who are in bad health or in the decline of life. It varies in degree in different cases from a slight humming, of which the patient is conscious only when everything is quiet, to a noise of a most aggravated character. The sounds in the ears of which patients complain are variously described: some speak of a ringing of bells, others liken them to the murmur of trees, the hum of a tea-kettle, &c.; one old lady said her noise was like the low singing of birds. The descriptions which people give of the noises they hear depend to a certain degree on their fancy, their power of graphic expression, and not infrequently upon their rank in life and the sounds with which they are most familiar. An Irish writer once said:—"Persons from the country or rural districts draw their similitudes from the objects and noises by which they have been surrounded, as the falling and rushing of water, the singing of birds, the buzzing of bees, and the waving or rustling of trees; while on the other hand, persons living in towns, or in the vicinity of machinery or manufactories, say they hear the rolling of carriages, the hammerings and the various noises caused by steam-engines. Servants almost invariably add to their other complaints that they suffer from the ringing of bells in their ears; while in the country, old women much given to tea-drinking sum up the category of their ailments by saying that 'all the tea-kettles in Ireland are boiling in their ears.'"

Singing in the ears is often associated with deafness, but it may exist for a time in people in whom the hearing power is not defective, and with them many causes may suffice to produce it, such as anxiety and annoyance, mental fatigue, over-work, prolonged suffering, and so on. With many persons a few doses of quinine will quickly produce singing in the ears. It is by no means an easy complaint to treat successfully. In the first place, the ear should be examined for wax with a speculum, and should there be any accumulation, it should be removed by judicious syringing. Then the general health should be carefully inquired after, and should any error be detected, that should if possible be remedied before anything else is done. After this preparatory treatment, remedies may be resorted to, directed especially against the complaint itself. When the noises are associated with deafness, small doses of quinine or tincture of pulsatilla may be given. When the noise is buzzing or loud like a steam-engine, tincture of digitalis is said to be the best remedy. Plumbago, the black-lead of our pencils, is reputed to be of service when the noises are roaring or thundering; it may be given in five-grain doses every four hours. Sometimes the bromide of potassium mixture (Pr. 31) will succeed as well as anything.

Deafness occurs as a symptom of many ear diseases, such for instance as rupture of the membrane. Sometimes it is due to an accumulation of wax in the ear. It is said to be nervous deafness when it depends on general torpor and debility, is better sometimes than at others, especially in fine weather and when the patient is

cheerful or animated, and the stomach and liver are in good working order. Deafness varies greatly in degree in different patients. We meet with one person who, as he says, is "only a little hard of hearing," whilst another is "as deaf as a post." Curiously enough some people hear very much better in the midst of a noise than when things are moderately quiet. Although very deaf to conversation they tell you that when travelling in a carriage or cab, or by railway, they hear much better than usual. It has been said that the improved hearing is imaginary, and that it is explained by the fact that people raise their voices in order to counteract the surrounding noise. This may, in some instances, be the true explanation, but it must be remembered that ordinarily the speaker raises his voice sufficiently only for those whose hearing powers are intact. And it has been proved too, experimentally, that some people who can ordinarily hear the tick of a watch at only an inch or two from the ear, can in a railway carriage hear it at a distance of some feet. Instances are related of people who, although ordinarily very deaf, could hear fairly well when near the noise of a mill, or in a blacksmith's shop when hammering was going on. An American writer tells us of a mail agent, on one of the railways, who was deaf, but was never supposed to be so by those who only talked with him amid the noise of the train. The treatment of deafness is not on the whole very satisfactory. In the first place the ears should be examined for wax by means of the speculum, and should there be an accumulation it must be removed by syringing as already directed. Should there be no wax the introduction of a drop or two of glycerine may do good. Should the general health be below par, iron and cod-liver oil may be given advantageously. Often benefit is derived from taking a table-spoonful of the tonic quinine mixture (Pr. 9), three or four times a day. For old people, or those who have done much brain-work, phosphorus, or the hypophosphites (Prs. 53, 54, or 55), may be employed with a fair chance of success, although of course they often fail to do any good. Several kinds of hearing trumpets are sold, some of which are here figured. The

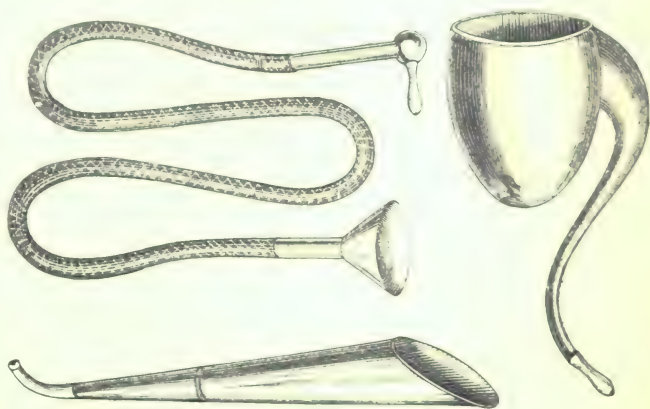


Fig. 6.—HEARING TRUMPETS.

first is a flexible speaking-tube, which is very convenient for conversation, and is, in fact, often called a conversation-tube. The second and third figures represent the ordinary metallic trumpets which are used by persons with impaired hearing to hear addresses, sermons, and so on. In some churches long flexible tubes run from beneath the pulpit to the seats of those whose hearing is impaired, and are used as

is the conversation-tube. It may be stated that as a rule the simpler forms of hearing apparatus are by far the best. The so-called "invisible" tubes which are worn in the passage of the ear usually prove of little or no value. Should your own efforts to obtain relief prove of no avail, it must be remembered that a consultation with an experienced surgeon or physician, who has made diseases of the ear a speciality, may be attended with the happiest results, although often enough, it must be confessed, it ends in nothing but disappointment.

Deaf-mutism.—Deaf-mutism may be dependent on several different conditions, but in the great majority of cases it is caused by total or partial deafness, the result either of congenital defect or of disease occurring during early life. A child who has never heard cannot acquire language in the ordinary way, and is consequently dumb. It is not at all necessary that there should be a complete absence of hearing power, for a very moderate degree of deafness is quite enough to give rise to this misfortune. When it is remembered that children acquire language by hearing each word frequently repeated, and that every new word they learn is imitated imperfectly at first, the articulation being corrected only after many successive efforts, it will be understood that, in the case of a child partially deaf, the only way in which he could be taught to talk would be by repeating every word over and over again in a loud voice close to the ear, and correcting the articulation until it was perfect. A child may be born with good hearing power and lose it either totally or in a great measure before it has learned to speak. This often results from scarlet fever. A child who has learned to talk may become deaf when four or five years old, and then often enough gradually loses the faculty of speech. When children are in process of becoming dumb, their articulation gets more and more indistinct, until, after a time, it becomes impossible to make out what they say. They have not practised the art of speaking sufficiently long for it to have become with them a second nature; and when they can no longer hear what is said, the remembrance of how to produce the different articulate sounds is gradually lost. It is exactly parallel to the case of a child losing one language whilst acquiring another. It is well known that a boy or girl of four or five years of age, who has been brought up in India with a native nurse, and taught as a first language Hindostanee, will have completely forgotten it in six months if brought to England. The first point to be ascertained in any case in which the speech has been lost or not acquired in consequence of deafness, is whether any treatment is likely to improve the hearing, and, if so, to what extent. If a fair amount of hearing can be restored, no further treatment or management will be required, and the child will learn to talk all in good time. When nothing can be done, and the child is totally or partially or incurably deaf, it becomes a question of grave moment how he is to be educated. Until recently the deaf and dumb have always in this country been taught to express themselves manually—in other words, to talk on their fingers. Another system has for many years prevailed on the Continent, and is now rapidly making progress with us. The finger alphabet is not employed, but the children are taught to use articulate speech, and to understand by watching the lips of others what is being said. This power can be achieved only by diligent cultivation of the powers of observation and imitation. The space at our disposal will not permit of our entering fully into the merits of this system,

but the following account, condensed from a lecture recently delivered at one of the London hospitals, will serve to convey some idea of the means by which this object is accomplished :—

The so-called German system of education of mutes may be briefly described as one where deaf and dumb children are taught to understand and employ language by observation and imitation of the articulation of others ; the finger alphabet and all artificial signs being rigidly excluded. For this as for any other system, it is of course necessary that the child's intellectual faculties be not deficient, and obviously where any malformation of the organs of speech exist it is not applicable. The education is usually commenced at about the age of seven, and it extends over a period of eight years. Let us begin, then, with the first lesson of a deaf and dumb child who has previously received no instruction of any kind. He is brought into a room where a hearing person is spoken to by the teacher. The child soon notices that as the teacher's lips move, the listener turns round and looks at him, and he thus learns to direct his attention to the lips of the instructor. Without entering at any length into the subject of sounds and letters as taught to mutes, it will, with a little consideration, be seen that though it is a difficult matter to elicit proper sounds by placing the lips and tongue into the necessary positions, it is not an insurmountable one, and that a very complete alphabet of sounds may be formed, so that as the pupil progresses with this alphabet, he is taught in a short time by joining together two sounds to articulate a word. As soon as this step has been accomplished, the attention of the child is directed to some object or picture which represents the word pronounced, and this object soon becomes associated in his mind with the sound he has made to correspond to it. Let us take an example :—The mouth of the child being opened, he is made to effect an expiration. This is done, firstly, by his imitating the teacher, and secondly, by the latter exerting at the same time a little pressure on the pit of the child's stomach. Thus, the sound which corresponds in the phonetic alphabet to the letter *h* is evoked, and it is to be further noticed that this is unattended by any vibration of the larynx. By opening the mouth widely and making a slight noise, without the expiratory movement, the sound "ah" for the letter *a* is evoked ; this being attended by a vibratory movement of the larynx which can be felt to be communicated to the fingers pressed upon the front of the throat externally. At first, the loud inharmonious noises that are made in attempts at speech require to be modulated. This is effected in two or three ways. The teacher himself, speaking in a low tone, calls the attention of the child to the quiet, subdued motions of the chest, and of the muscles around his mouth. He tightly holds the child's hand in his own, and by depressing it the child learns to connect this movement with a lowering of the voice. By placing the hand of the child on his (the teacher's) throat, and by placing his (the teacher's) hand on the child's throat, he draws its attention to the slighter vibration of the larynx when the voice is lowered. By enforced attention of this kind the child, as his education advances, soon learns that his progress depends on his attentively cultivating his powers of imitation, and by copying these movements, produces in this way a fall in his voice.

Suppose the child to have produced the sound for *a*. By filling out the cheeks and making a puff, the sound corresponding to the letter *p* is elicited. Let these two

movements be performed consecutively and the word *ape* is produced. The child's attention is then called to the object, a picture of, or better still, a stuffed ape. From that time forward he connects in his mind the idea of an ape with the sound he has learned to make. Again, after making the sound for *a*, he is shown the letter written down; he then learns to write it, and is thus able first to recognise the word when spoken by his teacher; secondly, to speak it himself; thirdly, to understand its meaning; fourthly, to recognise it when written; and fifthly, to write it himself. It is obvious that this system has very great advantages over that of speaking by the use of the fingers and artificial signs. Children who have acquired the power of talking by the deaf and dumb alphabet are still deprived of all intercourse with their fellow-creatures, except when they happen to meet with some one who is able to converse in the same way as themselves. By the modern system of lip-reading they are enabled to converse with any one and every one. Ninety-nine per cent. of deaf mutes have the organs of speech normal, and, provided they have good sight and touch, they may all be taught to talk, the amount of success depending solely on the greater or less capacity of the master. A school for the instruction of the deaf and dumb has been established in London, and the address can readily be obtained by reference to the advertising columns of any of the medical papers.

General Hints on Affections of the Ear.—A frequent cause of disease of the ear, is neglect to thoroughly dry the parts after washing. At the same time it is a very bad practice to screw the end of a towel into the ear. All that requires washing and drying may be reached with the finger. The internal ear is quite capable of taking care of itself. An instrument consisting of a small piece of sponge attached to a bone handle, known as an *aurilave*, is often seen for sale in chemists' shops. It is capable of doing a very great deal of injury, and should never be employed. By its use the secretions are packed in the ear, and inflammation is very likely to be set up. Another very bad practice is that of boxing children's ears. A blow on the side of the head has been known in many cases to rupture the tympanic membrane, inflicting on the child an irreparable injury. We have already seen that this accident may also arise from loud and sudden noises, such as the discharge of artillery. The precaution of applying the hands to the ears for the moment will obviate any risk. A doctor is often asked by his patients if it is a good plan to wear wool in the ears. For a person who is not suffering from any disease of the ear it is certainly an absurd practice; there is no more reason for stopping up the ears than there is for obstructing the nostrils. For those who suffer from occasional attacks of deafness, or who have at times a discharge from the ear, a little cotton wool may serve as a protection from draughts, as in riding in an open carriage, or in the train, but we should not advise its habitual use. It is to be feared that in the case of children deafness is often mistaken for stupidity. "Very sad is it to think how often a child is thus punished for his misfortune, and, it may be, irremediable injuries inflicted on the mind or temper of this poor victim of unintentional injustice. It is hardly necessary to insist upon the care which is requisite in examining the state of the hearing power in a child, or to refer to the fact that children will often say, and doubtless think, that they hear a watch when they do not."

ECSTASY.

Though closely allied to catalepsy, ecstasy differs from it in several important respects. One of the main points of difference is that in ecstasy the vision or train of thought that has been going on during the seizure is remembered, whilst in catalepsy there is complete oblivion. It often happens that the two diseases alternate or co-exist.

In ecstasy the limbs are motionless, but not rigid. The eyes are open, the pupils fixed, the livid lips parted in smiles, and the arms extended to embrace the beloved vision. The body is erect and raised to its utmost height, or else is extended at full length in recumbent posture. A peculiar radiant smile illuminates the countenance, and the whole aspect and attitude is that of intense mental exaltation. Sometimes the patient is silent, the mind being apparently absorbed in meditation, or in the contemplation of some beatific vision. Sometimes there is mystical speaking, prophesying, or singing, or the lips may be moved without any sound escaping. Various attitudes are assumed in consonance with the ideas passing through the ecstatic's mind. Spots of blood sometimes appear on the hands and other parts of the body, and are said to represent the wounds of the nails in the hands and feet of Jesus, or the thrust of the spear in His side. Usually there is complete insensibility to external impressions.

Ecstasy is often associated with religious monomania. It was formerly quite common among the inmates of convents, and is now not unfrequently met with at camp-meetings and other gatherings of a similar nature. Many truly devout persons are ecstatics, the reason being that since the diffusion of Christianity, religion has exerted a more powerful influence upon the mind and emotion than anything else.

Ecstasy is not a common complaint, but still many cases have been recorded even during the last five or six years. One of the best known is that of Louise Lateau, who was born at Bois de Haine, a small village in Belgium, in the year 1850. Even as a child she exhibited symptoms of nervous derangement. We are told that she loved solitude and silence, and spent most of her time in meditation and prayer. She was subject to paroxysms of ecstasy, during which she spoke on the subjects of charity, poverty, and the priesthood. She fancied that she saw St. Ursula, St. Roch, St. Theresa, and the Holy Virgin. Bleeding, or "stigmatisation," as it is called, appeared soon after the onset of these seizures. One Friday she bled from the left side of her chest; on the following Friday the flow was renewed and, in addition, blood escaped from the backs of both feet; whilst on the third Friday not only did she bleed from the side and feet, but also from the backs and palms of both hands. This continued for a long time, and finally other bleeding points were established between the shoulders and on the forehead. The evidence seemed to show that there was *bonâ fide* bleeding, and that it was not the result of a wound made artificially. In addition to these phenomena, Louise declared that she never slept, that she had had nothing to eat or drink for four years, that she had not had a faecal evacuation for three years and a half, and that the urine was utterly suppressed. This was undoubtedly untrue. On being

closely interrogated she admitted that, though she did not sleep, she had short periods of forgetfulness at nights—a distinction without a difference. One of the doctors who investigated the case, on suddenly opening a cupboard in her room, found that it contained fruit and bread. It was also shown that her chamber communicated directly with a yard at the back of the house, so that it was perfectly possible for her to have slept, eaten, defæcated, and urinated to her heart's content without any one being a bit the wiser. Quite a number of books have been written about this interesting young lady, the theologians endeavouring to prove that she was the subject of miraculous intervention, and the doctors regarding her simply in the light of a curious case of ecstasy. We have very little doubt that bromide of potassium would soon have put a stop to the phenomena. Systematic watching would have been attended with the same result as in the case of the Welsh fasting-girl, or with a sudden restoration of appetite.

Sometimes ecstasy occurs as an epidemic; the strange spasmodic epidemics of the Middle Ages were undoubtedly of this nature. A few years ago an epidemic of ecstasy or emotional exhibitions occurred in several parish churches in one of the most northerly of the Shetland Islands. It was brought to an abrupt conclusion by a rough fellow of a kirk officer, who carried out a troublesome patient and “tossed her into a wet ditch.” From that time forth no more cases occurred. This is not the only instance in which epidemics of this nature have been arrested by arguments addressed to the fears of the subjects. Making preparations to cauterise the region of the spine with a red-hot iron has often a most beneficial effect.

A great deal can be done in the way of treatment, by giving as little notoriety to ecstasies as possible. They glory in the idea that they are of sufficient importance to excite attention and discussion, and they are accordingly stimulated to yield to their attacks, so long as they find that an air of mystery is attached to them. Removal from all associations calculated to continue the exciting and morbid train of thought which has developed the disease is of importance. The drug from which most benefit is usually derived is bromide of potassium. The mixture (Pr. 31) should be given in three table-spoonful doses three times a day. Should this fail, half a tea-spoonful of the ammoniated tincture of valerian should be added to each dose. A five-grain compound assafœtida pill given twice or three times a day often does good. A useful prescription is a tea-spoonful of fetid spirit of ammonia, a table-spoonful of lime-water, and a table-spoonful of peppermint-water every four hours. The systematic use of galvanism in conjunction with these remedies is often of service.

ENTERIC FEVER.—(See TYPHOID FEVER.)

ENLARGED GLANDS.

Enlarged glands in the neck, associated with a condition of more or less marked debility, are of frequent occurrence amongst the children of the London poor. When we consider their mode of life, either in the metropolis or in any of our large manufacturing towns, we can hardly wonder that such is the case. They live in an

atmosphere stagnant and contaminated in a thousand ways, and in little dark ill-ventilated rooms in narrow streets. They are badly clothed, and insufficiently protected from the injurious effects of cold and wet. They are ill-fed, their diet being frequently, and indeed generally, of a kind quite unsuited to their growing years.

The glands often begin to enlarge during the condition of debility left by some illness, such as whooping-cough or scarlet-fever. Often enough the skin breaks over them, giving rise to the formation of a number of little abscesses, which may go on discharging week after week and month after month, and are very difficult to heal.

In these cases much may usually be done in the way of treatment. The diet must be specially attended to, none but the lightest and most nourishing food being given. It is a great mistake to overload the stomach, for it must be remembered that the little patient's digestive powers are usually none of the best. The use of stimulants, whether wine or beer, should be very sparing, and the milder and weaker should be preferred to the heavier and stronger kinds of malt liquor. The patient should be made to take plenty of exercise in the open air, not however carried to the point of fatigue; and it would be very desirable, if funds could be obtained for the purpose, for him to have a change of air from time to time, alternating a sea with an inland climate. The clothing should be warm, and should cover the whole of the body, no part being left unprotected. Bathing also, whether in sea or river, with the habitual use of the tepid or cold sponge bath, and friction of the skin with horsehair gloves or a rough towel, should be frequently practised. The bowels must be kept regular, but only the mildest aperients should be administered, anything like active purgation being scrupulously avoided.

The best medicine for this condition is sulphide of calcium. One of the little sulphide of calcium pills (Pr. 68) should be taken every hour or every alternate hour for a couple of weeks, and then less frequently for some time longer. They at once arrest the formation of fresh lumps in the neck, and abscesses if present usually dry up and disperse, the wounds quickly healing. Even in those very bad cases where there is disease of the bones of the fingers or wrists, this mode of treatment will do a great deal of good. After the second or third week some form of tonic may be administered in conjunction with the sulphide of calcium. Cod-liver oil, quinine, and iron—all do good in this condition. The dose of cod-liver oil should not exceed a tea-spoonful to begin with, and it may be taken alone or in combination with steel wine or an equal quantity of the syrup of iodide of iron. Often enough Parrish's Chemical Food answers as well as anything. In prolonged cases the syrup of hypophosphite of lime taken in a tea-spoonful dose night and morning does good. But the treatment on which most reliance is to be placed in these cases is the sulphide of calcium.

EPILEPSY—FITS—FALLING SICKNESS.

This complaint has been known from the earliest times. The ancients superstitiously ascribed it to the malice of demons, or to the anger of their offended deities. If a person had a fit in the forum, it was considered an ill omen, and the meeting

was at once dissolved, all public business being suspended for that day, and from this circumstance the disease was called *morbus comitialis*.

Nothing can be more startling than the onset of an epileptic seizure. It comes on suddenly, often when least expected by the sufferer or those about him. In a moment, with a loud cry or groan, he falls struggling, foaming, and insensible upon the earth. He strains and struggles violently; his breathing is embarrassed or suspended; his face, which at the very instant of the fall had assumed a corpse-like pallor, soon becomes turgid and livid; he foams at the mouth; a choking sensation is heard in the windpipe, and for the moment he appears to be on the point of death. In a little while these alarming symptoms abate, and at length cease, leaving the patient heavy, exhausted, and stupid. After an interval this, too, passes away, and he to all appearance is perfectly well.

As we have said, the attack occurs suddenly. Sometimes there is a distinct warning, but even then it is of the shortest possible duration. The symptoms constituting the warning, when it does occur, are widely different in character and intensity. One patient had always before an attack the idea of a man shooting pigeons. He said distinctly that he saw nothing of the kind, but simply the idea came into his head, and then he knew that he was on the point of having a fit. In another case, the patient stated that when a fit was approaching he fancied he saw a little old woman in a red cloak advance towards him, and strike him a blow on the head, when he at once lost all recollection, and fell down. A gentleman who was epileptic said that just before a fit he always heard "an infernal noise something like the outside of a booth at a country fair," whilst another had a vision of "a hideous donkey." Sometimes there is a distinct "aura," as it is called. The patient experiences a sensation of blowing, or something like it, which commences in the extremities and passes upwards to the head, insensibility ensuing when it reaches that point. The aura varies somewhat in character in different individuals. In one it is a distinct pain in the limbs, which runs up towards the head; in another there are twitching movements, and the legs are drawn up, or the arm becomes contracted; whilst in a third there is a vague uneasiness about the pit of the stomach, which seems to pass up through the chest. One very peculiar circumstance about the aura is the facility with which it may be removed and the attack averted. When it consists of pain, it may be stopped by rubbing, or by the pressure of the hand, or by a piece of string or tape drawn tightly round the affected part. When there are contractions, they may be removed by getting some one to draw the affected limbs out straight. When it assumes the form of uneasiness in the stomach, it is advisable to take a little sal volatile, or spirits of chloroform, or spirits of ether, or some similar aromatic draught. Suddenly dashing cold water in the face, or pressing the thumb forcibly backwards, will often succeed in averting the aura better than anything. The duration of the aura is always short, never if left to itself exceeding a few minutes. Sometimes, however, if stopped in the manner we have indicated, it may keep coming and going for hours, being arrested each time by appropriate measures. Some people, although they have no distinct warning, are dull, heavy, and depressed in spirits before each attack, so that their friends often guess what is going to happen. Very often this dulness and heaviness is removed by an attack, so that it seems

almost to have done the patient good. Many people are unusually vivacious before a fit, and then when it is over they suffer from the most horrible depression for many days. Such are some of the different ways in which an attack may give notice of its approach. In some people there is absolutely no warning of any kind; in others it occurs with such regularity that the patient is enabled to move from a position of danger.

As we have said, at the commencement of an attack the patient gives a cry. This cry, which we should mention is often absent, is sometimes a groaning sound, seemingly squeezed out of the chest, but more frequently it is a piercing and terrifying scream. Women have been thrown into hysterics on hearing it, and it is said to have caused pregnant women to miscarry. Even the lower animals appear to be alarmed by it, and we are told that "a parrot, himself no mean performer in discords, dropped from his perch seemingly frightened to death by the appalling sound."

Usually at the outset of an attack the spasm twists the head round so that the patient seems to be trying to look over his shoulder. The limbs are rigidly contracted, the hands firmly clenched, the thumbs bent towards the palms, the toes curved downwards, and the feet arched. When the convulsive struggles begin the face becomes frightfully distorted, the brows are knit, the eyes quiver and roll about, or are fixed and staring, or they may be turned up, the whites only being visible; the mouth is drawn on one side, the tongue is thrust out between the teeth, and often severely bitten, so that the foam that collects around the lips is tinged with blood. The arms and legs are thrown about, striking the body, or bruising themselves against the floor or furniture. When the struggle has reached its crisis, the convulsions subside, and the sufferer looks at those around him with a bewildered, stupid, or sad expression, and perhaps essays to speak. He has a jaded, exhausted look, and seems tired and disposed to sleep. When the convulsive paroxysm is over the after-stage of stupor sets in. The patient after awhile awakes, and is often confused and incoherent for a time; by degrees, however, he resumes his ordinary appearance and condition, but he remembers nothing of what passed during the fit. Vomiting often follows the attack, and with some people it is a constant sequence. Large quantities of urine are passed in many instances.

In many cases the symptoms are much milder than we have described. There may be no convulsion at all, nothing but a momentary loss of consciousness. The patient may be in the midst of talking, when suddenly a blank occurs which may last three or four minutes. There is a fixed, absent gaze, a totter perhaps, a look of confusion, and that is all. Consciousness returns, the patient goes on talking, or resumes his work where he left off, and is not always aware of what has happened. These absences or blanks may occur several or many times a day, perhaps for years.

These slight attacks are called by the French *petit mal*, while the severer form, previously described, is named *grand mal*, and these names have passed into general use. The slighter attack is sometimes spoken of as epileptic vertigo, to distinguish it from the ordinary epileptic fit. The best proof that these apparently dissimilar affections are in reality one and the same is afforded by the fact that they may both occur in the same individual. Sometimes a man will for a long time be affected with

epileptic vertigo, and will then suddenly become the subject of ordinary epileptic fits. The two forms may intermingle, the milder happening sometimes, and sometimes the more severe. Between these two extremes there are many links of gradation. Sometimes the patient does not fall, but there is a momentary loss of consciousness, accompanied by slight spasm. Sometimes the sufferer sinks or slides down quietly and without noise, is simply pale, is not convulsed at all, but is quite insensible. It will readily be imagined, from what we have said, that it is no easy matter to speak very definitely as to the duration of epileptic seizures. Sometimes the attack is slight and does not occupy more than a moment of time; at others it is more severe, and may last two or three minutes. An epileptic fit lasting more than five minutes is a rarity. It may seem to you to be much longer, but if you take out your watch and time it you will find that it is not. When an attack is said to last an hour or more it probably consists of a series of fits separated by incomplete intermissions.

Next, as to the frequency of the fits. Many people have distinct bouts of fits—that is, they have two or three in a day, and then go a week or two without having any more. It is rare to find that there is any accurate periodicity in epilepsy, but you may often notice that the recurrence of the attacks has some kind of relation to time as marked by its natural division into days or weeks. It is not meant that the attack occurs exactly to the day—that is very rare—but rather that the fits occur about once a fortnight, or once a month, or whatever it may be. Most people who are subject to epilepsy have an attack oftener than once a month. The actual number of attacks in the year varies very much in different cases—there may be two or there may be two hundred. A high rate of frequency is not determined by an enfeebled state of health, for, on the contrary, it often happens that those whose general physical condition is excellent have a great many fits, whilst those who are weak and poorly have them at longer intervals.

Between the attacks the patient may be perfectly well, but such is not often the case. Very commonly the memory is bad, the patient forgets his engagements, and cannot even remember where he dined yesterday. Lowness of spirits is of frequent occurrence, and this may continue for a long time, and finally run on into a state bordering on imbecility. Sometimes the patient suffers from headache and giddiness, or from noises in the head, or perhaps he sees specks floating before his eyes. Epileptics usually have but little power of resisting cold, their circulation is feeble, and they have cold, damp, frog-like hands. The face often wears a peculiar expression, which is difficult to describe. Very often there is a curious immobility of the countenance, and a strange staring appearance about the eyes.

Epilepsy is not hereditary, or, if at all, but slightly so. It occurs with equal frequency in men and women. The first attack in the majority of cases makes its appearance between the ages of thirteen and seventeen. Sometimes the first attack occurs about the time the second teeth are cut. Often enough it is not repeated, and probably is then rather of the nature of a convulsion than of a true epileptic seizure. In young people fits are sometimes induced by a sudden fright. A child, for instance, breaks something, and is greatly alarmed at the thought of a scolding. In one case, a little girl slipped from the top of a large stone staircase to the bottom; she was apparently unhurt, and was congratulated on her escape; but a few days after epilepsy set in,

and was to her a source of life-long misery. It is said that long-continued anxiety may be the cause of epilepsy, but it is not a common cause. Sometimes epilepsy is brought on by seeing another person in a fit. Not only will a patient who has already suffered such attacks often fall into one upon seeing another so affected, but people will even sometimes do so who have never before shown any symptoms of it. Such instances, however, are rare, and practically there is not the slightest danger in attending a person with fits.

Just as we know very little about the cause of epilepsy as a whole, so we know very little about what brings on each individual attack. They very often come on at night, and at the commencement often occur solely at night. It has been noticed that when the fits are growing less frequent in their occurrence they come on chiefly or only at night, so that this must be regarded as a favourable sign.

There is no disease which is more frequently feigned than epilepsy. Many people think that nothing can be easier than to throw your arms and legs about and pretend to have a fit. Soldiers and sailors sometimes endeavour by this means to obtain their discharge from the service, and in France it is often employed with the view of avoiding the conscription. Feigned epilepsy is not uncommon in the street, the performer hoping to excite compassion and obtain money from the bystanders. It is, of course, very important to distinguish the sham from the real disease. This is often rendered difficult from the fact of the impostor being unwilling to perform in the presence of any one at all likely to detect the fraud. Pretended epileptics sometimes get admitted into our hospitals, and then they take care to have their fits just before the hour of the visit, or directly the physician has gone his rounds. You cannot assert positively that a patient is not really suffering from epilepsy, if you have never seen him in a fit, and he knows this perfectly well. But still you may find out a great deal by asking him questions, by, in fact, a system of cross-examination. The real sufferer does not mind a bit how often you ask him about his complaint, he is only too glad to tell you, and hopes you will be able to do something for him; but the impostor does not like it at all, and says as little as possible, being always afraid of committing himself. A man who is telling you the truth gives the same account time after time, but not so one who has to rely on his powers of imagination. He tells you one thing to-day, and his memory being short, another to-morrow. Moreover, he will tell different people different stories, and a comparison of notes often serves to detect the fraud. By putting leading questions to an impostor, you can often get him to make the most astonishing statements. For instance, you say to him, "Now, during a fit, do you see everything of a sky-blue colour?" and he, thinking this is a symptom of the disease, promptly answers, "Yes;" whilst the true epileptic would regard you with astonishment, and reply in the negative. Then there is another point that is worth attending to. The impostor naturally chooses for his exhibitions places which are most suited for his purpose, as a crowded street, the promenade, and so on. The true epileptic does not care much for walking in the streets, especially about the time of an expected paroxysm, and when he does take the air, prefers some retired spot where, should a fit come on, there will be less chance of his being observed. Again, the real epileptic often gets seriously injured by his falls, and his face and body are covered with marks and scars; but the

impostor generally selects some soft spot where he is not likely to sustain much injury by tumbling down. He takes good care, too, not to fall in the fire, or with his head on the stones.

When one has the opportunity of seeing a fit, the difficulties are not so great, although even then the problem is not always an easy one to solve. In the first place, in epilepsy the muscular power is very great, so that it requires three or four people to hold the patient down; the impostor can, of course, command no more than his natural strength. In epilepsy the fits are seldom both long and violent, whilst the impostor usually falls into the error of supposing that the longer he can keep it up, and the more violent he is, the better. The result is that he very much overdoes it. In epilepsy the eyes are partly opened, and the eyeballs are visibly rolling and distorted. In feigned epilepsy the performer generally prefers to close his eyes, but sometimes he cannot resist the temptation to open them for a moment to see what success is attending his efforts, and to watch the effect on the bystanders. In epilepsy the pupils are very large, and are insensitive to light; but in the feigned disease they are, of course, perfectly natural in size. If you pull up the eyelid and hold a candle just in front of the eye, you will find in the feigned disease that it is perfectly sensitive. The pupils contract, and the eyes of the malingerer blink in a manner that gives unmistakable evidence that he is not insensible. In epilepsy the pulse is often irregular, but this is beyond the power of the actor's art. Then, again, in a real fit the skin is usually pale and cold, but the impostor gets hot and red with his exertions, and perspires freely. The true epileptic often bites his tongue severely, but this is rather painful, and your impostor generally finds it advisable to omit this symptom. Foaming at the mouth is no criterion, for a piece of soap placed between the cheek and gums will furnish any amount of foam. In epilepsy the patient is of course quite insensible, and feels no pain. A very popular mode of detecting a shammer is founded on this fact. A little hot sealing-wax dropped upon the hand or leg of a person who is not insensible causes an involuntary start, whilst a man who was really in a fit would no more feel it than if he was dead. A touch with a red-hot poker, or a drop of gin in the eye, is said to answer admirably. A very good way of detecting an impostor is to propose gravely in his hearing to pour boiling water on his legs, and then actually to pour cold water on them. A favourite plan with police-constables and others who see a good deal of the worst side of life, is to press their thumb-nail under that of the supposed impostor. This, if done suddenly, gives rise to the most exquisite pain, and few people can bear it without an exclamation. It is a test that can be applied without any trouble and without inflicting the slightest injury on the sufferer or performer, as the case may be. We do not recommend the method, but still we must admit that its employment is perfectly justifiable when we suspect that a person is trying to deceive us. A very ingenious plan was adopted with a soldier who was pretending to have a fit. In the midst of his convulsions he was laid on the upper of two tables placed one on top of the other. He was so afraid of falling off that instantly his movements ceased. In another instance some fine Scotch snuff was blown up the nostrils with a quill. In a moment the man was sneezing violently and the imposture was detected. In true epilepsy no

amount of snuff would induce sneezing during a fit. We are told that there was once a beggar in Paris who often fell into epileptic fits in the streets; one day some compassionate spectators, fearing that he might injure himself in his struggles, got a truss of straw, and placed him on it; but when he was in the height of his paroxysm, and performing remarkably well, they set fire to the straw, and presently he took to his heels.

Epilepsy has sometimes to be distinguished from hysteria. An hysterical fit is usually preceded by sobbing, crying, laughing, and gesticulation, and does not come on so suddenly as epilepsy. A young lady in hysterics seldom falls down suddenly as if she were shot, but takes care to slide down gracefully, usually in a soft place, or where there is somebody near to catch her or support and comfort her. There may be a shriek, but it is repeated over and over again, and is a very different thing from the epileptic cry. Then in the attack there is not that hideous distortion of the features, neither is there the meaningless eye, nor the dilated pupil, nor the bitten tongue. In epilepsy insensibility is profound, but in hysterics the young lady knows perfectly well everything that is going on, as you may find to your cost if you happen to say anything uncomplimentary about her. After the attack there may be a good deal of exhaustion, but there is not that deep sleep that one gets after epilepsy.

A fainting-fit is sometimes mistaken for an attack of epilepsy. As a rule, there is little difficulty in distinguishing between them. In epilepsy the heart beats well, and the pulse can be felt at the wrist, whilst in a faint the patient is for the moment almost pulseless. It is sometimes no easy matter to distinguish between a faint and an attack of *petit mal*. It must be remembered that people do not faint without any cause, although often enough that cause is very trivial. It may be simply the heat of the room, or long abstinence from food, but there is always some reason. An attack of *petit mal*, on the contrary, comes on momentarily, and without, so far as you can tell, any exciting cause. If any one apparently in good health is sitting quietly in a room not too hot, and, without receiving bad news or anything of the kind, suddenly becomes insensible, it is probably an attack of epilepsy and not a simple faint. If, on the other hand, the room is hot and close, the patient is delicate, and has been excited, and then suddenly becomes pale and falls, it is probably only a fainting fit.

Epilepsy may usually be distinguished from an attack of convulsions without much trouble. Convulsions occur chiefly in infancy, and especially when the child is cutting the first set of teeth. It is rare for epilepsy to come on at so early an age. Convulsions as a rule set in less suddenly than does an epileptic fit, the paroxysm is of shorter duration, there is no absolute loss of consciousness—at all events, at the beginning of the attack—and there is no subsequent stupor.

Now, as to the probable issue of the complaint. This is a point on which every one is naturally most anxious. As regards immediate danger—danger, that is, to life—there is little or none. The patient always comes out of the fit, and death during an epileptic seizure is infinitely rare. This is a point on which no anxiety need be felt. But what about the chances of getting well? Will the patient in time get rid of his fits, and be as good a man as he was before? This is a question

not so easy to answer, and for its solution there are a good many things to be taken into consideration. In the first place, how long has the patient been suffering from epilepsy? If he has had it for a very long time—for years and years—we can hardly hope for a perfect and permanent cure, although of course we may be able to do him a great deal of good. But when the disease has been recently established—when the patient has had only a few fits—we are much more hopeful about it. It should always be remembered that the longer the patient has been suffering, the greater the difficulty and improbability of cure. Then there are other questions to be considered. Is the epilepsy hereditary—did either the father or mother suffer in the same way? If so it is a bad omen. When the fits set in early in life, the chances of cure are better than when the sufferer is well on in years before they begin. Then the condition of the general health is not without its influence. Contrary to what might be expected, some of the most obstinate cases are those in which the general health is good; some of the most tractable are those in which there is a disturbance that may be corrected. Again, when the intervals between the attacks are much prolonged they are less amenable to treatment than when they exhibit a more rapid recurrence.

Now as to the treatment of epilepsy. What should you do when a person is in a fit? Lose no time in loosening his collar and necktie, so that his throat may be quite free. A little care will prevent him from injuring himself by striking the floor or furniture. Put a piece of cork or india-rubber between the teeth, as it will prevent the tongue from being bitten. The windows should be opened, and all crowding round the patient should be avoided. Cold water thrown on the patient does no good. If you have a bottle of nitrite of amyl, hold it under the nose until the face flushes. Beyond this there is nothing to be done. After the attack is over, get the patient on to the bed, and let him sleep with his head and shoulders well supported.

When there is a distinct aura, it may be possible, as we have seen, to arrest the coming paroxysm by making pressure on the part; or by constricting it by means of a ligature.

What is to be done to prevent the recurrence of the fits—in other words, what should you do in the intervals of the attacks? The great remedy for epilepsy is bromide of potassium. It must be given in good large doses to do any good—from ten to thirty grains three times a day. The bromide of potassium mixture (Pr. 31) contains fifteen grains in two table-spoonfuls. It is usually best to give it on an empty stomach—say half an hour before meals—as it is less likely to produce flatulence. Bromide of potassium nearly always does good in epilepsy. In some instances it has completely cured the patient, there never having been another attack after taking the medicine. In others it has arrested the attacks so that none have occurred for periods varying from a few months to two or three years. It is a most wonderful drug, and we should strongly advise every epileptic who has not tried it to do so without a moment's loss of time. In some cases its effects are little less than marvellous. Even when small doses have failed, large ones may succeed. It sometimes happens that the administration of five grains will diminish the frequency of the attacks, or prevent their occurrence for a long time, and that then, the medicine

being still taken, the seizures revert to their previous rate of frequency. An increase of the dose is followed by a similar succession of events; a further increase by a second succession of temporary improvement and subsequent deterioration; and so on until a larger dose of from thirty to forty grains is given three times a day, when the attacks cease altogether. The bromide of potassium should not be pronounced a failure until large doses have been given frequently. Many epileptics derive no benefit from bromide of potassium, simply because they do not take enough of it. We should advise that the medicine should be taken regularly for some weeks, or even months, after the fits have ceased. Many people no sooner get rid of their fits than they forget all about their medicine, and never think of it again until they are reminded of its value by a return of their old enemy. Another thing is that when the bromide is taken it must be taken regularly. It is of no use taking it for a day or two and then omitting it for a week, or anything of that kind. You must simply go straight on with it as steadily as clockwork. The bromide is said to prove most beneficial in those cases in which the attacks occur chiefly in the day-time; but the fact is, it answers admirably in all cases.

In some people bromide of potassium produces little hard red spots on the face and shoulders. Sometimes, too, it gives rise to drowsiness, dulness of apprehension, and muscular weakness, especially in the legs. These symptoms fortunately all disappear on temporarily discontinuing the use of the drug. In some persons they never occur, even when the drug is taken in large doses, day after day, and week after week. These symptoms may be obviated by a very simple precaution:—Take your bromide of potassium only six days in the week instead of seven—have a Sunday's rest in this as in everything else. This will prove successful, and the bromide will act equally efficaciously in controlling the fits. When the bromide is taken for a very long time it may be useful to discontinue it occasionally for about a week, or the system gets accustomed to it, and it may lose its effects.

Bromide of sodium is sometimes preferred to bromide of potassium. It may be given in the same dose, and in the same way. Some people mix it with an equal quantity of common salt—put it in the salt-cellar and use it at meals. This saves trouble, and you cannot forget to take your medicine; but by this plan you get a very variable dose.

Bromide of ammonium is sometimes used instead of the bromide of potassium, and is found to answer equally well. Some doctors use a mixture of the bromide of potassium and ammonium—thus, instead of giving fifteen grains of bromide of potassium, they give ten grains of bromide of potassium and five grains of bromide of ammonium mixed.

Other remedies for epilepsy are employed, but we believe that none of them are equal to large doses of the bromides. Belladonna is, with many people, a great favourite, and it undoubtedly often answers admirably. It is indicated when, in addition to the fit, the following symptoms are present:—Sparkling of the eyes, dilated pupils, intolerance of light, flushes of heat, and redness of the face, and starting at the least noise. It may begin in three-drop doses of the tincture, or the belladonna mixture (Pr. 39) may be employed if more convenient. If administered as soon as the indications of the fit are observed, it may succeed in arresting it.

Where the case is urgent, a dose may be given every ten minutes for an hour, and subsequently hourly ; but when it is more chronic, a dose every three or four hours will suffice.

Sulphate of copper is given in preference to belladonna when the face, during an attack, is pale and the convulsions are very severe. It should be given in small doses frequently.

Oxide of zinc sometimes does good in epilepsy ; two of the oxide of zinc pills (Pr. 66) may be given three times a day.

Inhalations of nitrite of amyl often prove useful in epilepsy. A few drops may be poured on a pocket-handkerchief and cautiously inhaled. The full effects of the drug are not obtained until the face flushes and a sense of pulsation is felt in the head. Until you learn exactly how to manage the drug it is as well to lie down whilst inhaling, but when you get accustomed to it you may take your inhalation wherever you happen to be. The best way is to take a good sniff at the nitrite of amyl bottle directly you feel any warning of a fit. Even when the convulsions have commenced, nitrite of amyl will sometimes arrest them. On several occasions nitrite of amyl has rescued patients from that desperate plight called status epilepticus, a condition consisting essentially of a succession of fits linked together by intervening unconsciousness, the fits recurring with increasing frequency till, at last, no sooner is one fit ended than another begins. Sometimes nitrite of amyl succeeds better when given internally instead of in the form of inhalation.

In conclusion we must say that bromide of potassium is undoubtedly the best remedy for epilepsy. We should always begin with it, and should not be in a hurry to give it up in favour of another drug.

Attention to diet and regimen during the intervals of the attacks is important. The patient should strictly avoid indigestible food, and should have his meals with regularity. Plenty of exercise should be taken in the open air, although excessive fatigue should be avoided. There is no reason to interdict horse-exercise, if the patient has been accustomed to ride, for, curiously enough, a fit very rarely occurs on horseback. Many epileptics have been relieved of their nocturnal attacks by being made to sleep with the head and shoulders well supported. It is a good plan to have a bed-rest which can be adjusted to any angle, instead of being contented with an ineffectual arrangement of pillows and bolsters. Then about baths—they should be taken for the purpose of cleanliness and to produce a healthy action of the skin, but they will do no more. Baths will not cure epilepsy, and shower-baths, sitz-baths, and so on, usually do more harm than good. It is very important not to let the feet get cold, especially at night. Thick woollen socks, a fire in the bed-room, plenty of blankets, and a hot-water bottle to the feet, will obviate all difficulty on this score. Then about mental work. The parents of an epileptic child are often told that he must not do anything of any account—he mustn't go to school, he mustn't learn anything, and mustn't read, and so on. This advice, we are sure, is very bad advice. Excessive mental work might, of course, prove injurious, but it is of no use running to the other extreme. A boy must have something to occupy his time, or he will be sure to get moody and morose, and to worry about himself and his misfortunes. A couple of hours' lessons in the morning, and as much in the

afternoon, cannot possibly hurt anybody ; and if you can only get him to take an interest in his work and like it, it may do him a great deal of good. In epilepsy, as in other chronic diseases, cod-liver oil, quinine, and other general remedies may be given, when there are special indications for their employment.

ERYSIPELAS.

This is the disease which is commonly known in England as "St. Anthony's fire," and in Scotland as "the rose." Two different forms of erysipelas are usually recognised—"idiopathic" erysipelas, arising from constitutional causes, and attacking chiefly the head and face ; and "traumatic" erysipelas, which follows a wound or injury, and may occur on any part of the body. The former variety, of which chiefly we shall have occasion to speak, is to all intents and purposes a fever, and belongs to the same class of diseases as small-pox, measles, and scarlet-fever. There is reason to believe that erysipelas is catching, although its contagiousness is undoubtedly of a low order. It not unfrequently occurs as an epidemic ; but it is far more common to find it haunting certain localities, and becoming what is called "endemic."

The causes which are usually said to produce erysipelas are both numerous and diverse. Certain individuals, and even certain families, appear to be more liable to suffer from the disease than others. What is the cause of this special susceptibility it is impossible even to conjecture. Erysipelas is common in newly-born children, but from the first to the twentieth year it is by no means common ; after this period to the fortieth year it is frequent as an acute disease ; but in more advanced age it occurs chiefly as a chronic and less important malady. It is often said that women suffer from it more frequently than men, and that it is especially liable to make its appearance at the time of the monthly periods and at the change of life, but these statements are not altogether borne out by facts. Gouty people have been found to suffer from it more frequently than others. Errors in diet, and especially eating certain indigestible substances such as shell-fish, and improperly smoked, dried, salted, or preserved meats, are said to act as exciting causes. Violent mental emotions are also accused of being occasionally the cause, and it is said to have been brought on by both anger and fear. Sometimes no cause can be assigned for its onset, but its occurrence is promoted by all circumstances that tend to debilitate the body—by intemperance, by previous disease, by low spirits and anxiety, by insufficient nourishment, and by foul air. Formerly, when less attention was paid to cleanliness and ventilation, it was much more common in hospitals and infirmaries than at present. Injuries to the skin, such as abrasions, scratches, wounds, burns, or blisters, wherever they are situated, may be the starting-point of the inflammation. Sometimes even the presence of gout in a particular joint, or the irritation caused by diseased teeth in either the upper or lower jaw, may determine the seat of onset. It is probable that the most common cause of an attack of erysipelas is its communication from one person to another. In erysipelas the constitutional symptoms may precede the local, or redness of the skin may make its appearance before the fever commences. The former course is the more common.

Usually the disease begins with malaise, aching of the limbs, loss of appetite, thirst, nausea or vomiting, diarrhoea, sore throat, increased heat of skin, frequency of pulse, headache, giddiness, depression of spirits, and perhaps bleeding from the nose. There are, in fact, all the ordinary symptoms of fever; but there is no such special prominence of any symptom as would enable us to give an opinion as to the probable nature of the complaint. After a few hours, the patient may suffer from a well-marked rigor, or he may experience only a little feeling of chilliness.

After a few hours, or it may be a day or two, of these undefined symptoms, the special phenomena of erysipelas make their appearance. The inflammation usually first attacks some part of the head or face. It is most frequently seen about the nose, or ear, or mouth, or eyelids.

To the patient the part affected feels hot and burning, and on touching it, it is found to be sore, stinging and smarting. It is of a red and shining aspect, and is usually hard and swollen. The inflammation gradually extends, most commonly in only one direction, but sometimes in several different directions. At the advancing edge the skin is so distinctly hard and swollen, that it can be not only seen but felt, whilst at the receding margin it is far less distinct. Sometimes the amount of swelling is not considerable, but at others it is enormous. Sometimes the lips swell enormously, the cheeks enlarge, the eyes are closed by the puffiness of the eyelids, and all traces of the natural countenance are effaced. A medical writer says:—"I know no disease, except perhaps confluent small-pox, by which the human face divine is so completely and speedily deformed and disguised. A stranger seeing a young female in the height of the disorder, and revisiting her after her recovery, is astonished at the change. It seems as if, by some magic process, such as we read of in our nursery tales, a hideous monster has been metamorphosed into a comely damsel." In some cases, in addition to the redness and swelling, little bladders are formed, like those produced by a blistering fluid, or a scald. These bladders may attain a large size, and when they burst they leave dry and thick crusts, which render still more hideous the face they have covered. Very frequently the inflammation is quite superficial, but sometimes it dips, as it were, through the skin, and affects the subjacent tissues, giving rise, perhaps, to the formation of matter. This is often the case in the loose tissue of the eyelids, and it is more common on the scalp than on the face.

There is considerable variety in the course of the symptoms. In some cases there is a speedy diminution in their severity, both locally and generally; whereas in others the reverse is observed. The amount of swelling about the face may be sufficiently great to give rise to the most annoying, and even alarming complications; such, for example, as temporary blindness, deafness, and impossibility of breathing through the nose. Sometimes the sufferer lies patiently still, yet apparently conscious and rational, till the tumefaction diminishes, and he is once more able to open his eyes. In many cases, however, the result is less fortunate, and the patient becomes first delirious and then comatose, and may die at the end of a few days. Sometimes the disease extends to the throat, and the patient may die suddenly from suffocation. In all cases of erysipelas of the head and neck it is necessary to carefully examine the throat, count the number of respirations, and note the tint of



HUMAN BONE STRUCTURE.

- A. Section lower extremity of Tibia, showing cancellated bone structure.
- B. Section parallel to surface of Femur, magnified after Kölliker 100 diameters.
- C. Transverse section from Humerus, magnified 150 diameters.

the skin. This is more especially needful because from the vitiated state of the blood the sensations are blunted, and the patient may have a very bad throat without experiencing any pain or distress in that region. An occasional hurried respiration, or a little blueness of the lips or finger-nails, may, if looked for, call attention to the nature of the impending mischief. In general the temperature, as ascertained by the thermometer, rises rapidly at the onset of the disease, reaching 104° , or more, in the course of a few hours. So long as the inflammation of the skin continues to spread the temperature increases, and may attain 106° . Any sudden elevation of temperature is to be regarded as an indication of the spread of disease. During the period of convalescence, a sudden increase in the fever may be an accompaniment or the herald of a relapse. Such a relapse might possibly be temporarily overlooked were it not for the use of the thermometer, for the symptoms are often almost imperceptible to the patient, and they may occur in a situation not necessarily exposed to the eye of the physician. The fever, as measured by the thermometer, is very variable in duration, and the temperature, after having returned to the normal, may exhibit several re-elevations coincident with extensions of the inflammation. Usually the highest temperature is reached on the third day of the eruption, and the decline commences on the fifth or sixth day. In fatal cases death takes place with very high temperature.

The pulse is generally full, beating at the rate of from 100 to 120 in the minute. It may revert to its normal rate at the end of the third or fourth day of the eruption, not again to rise far above this, unless indeed there be a relapse, indicated by elevation of the temperature.

That form of erysipelas which attacks only the skin is much less dangerous than that which involves the deeper parts. Cases which occur in patients with an open wound are of much more serious import than those which originate spontaneously. The termination of the disease is also less likely to be favourable when it occurs in an epidemic form.

The disease is always more serious in old people and children than in young vigorous adults. The habits and health of the patient previous to the attack greatly influence the result. Erysipelas, like many other diseases, proves especially fatal to drunkards and those whose health has been undermined by excesses of any kind.

The extent of the inflammation is usually of not so much importance as the severity of the constitutional symptoms. When there is a rapid, weak pulse, with a dry, brown tongue, or low muttering delirium, with marked prostration of strength, the case is very serious, even though the local changes may be limited both in distribution and severity.

The occurrence of delirium, and especially of delirium at night, is of no great importance, but marked drowsiness alternating with delirium is a serious symptom. Sometimes the membranes of the brain become involved, but delirium is not of necessity an indication of the occurrence of this complication.

We now pass on to the consideration of the best methods of treating erysipelas. The attendance of a medical man is in all but the very slightest cases absolutely necessary. The patient should be confined to bed, and attention should be paid to

all those hygienic measures—such as good feeding, fresh air, and quiet—which will be found fully discussed under the head of FEVER.

In erysipelas lowering treatment is seldom or never admissible. The disease is essentially an exhausting disease, and tonic and supporting treatment is necessary. In some cases stimulants are required from the very first, and the indications for their employment are the same as those given whilst speaking of the treatment of fever generally. The strength may be supported by the administration of bark and ammonia (Pr. 13), or quinine (Pr. 9).

One of the most useful medicines in the treatment of these cases is the tincture of the perchloride of iron, or tincture of steel, as it is not unfrequently called. So marked is its action that it has been regarded by some as a specific for this disease. It is essential for its success that it should be given in large and frequently repeated doses. Ten and fifteen drop doses given three times a day do no good, and to obtain a favourable result it is absolutely necessary that it should be given in doses of forty minims or more every four hours. It may be conveniently taken in about a wine-glassful of water. The beneficial effects of the medicine are sometimes seen after the first or second dose; the local inflammation ceases to extend; the inflamed part becomes paler, less tender, and less swollen; the feeling of exhaustion is diminished; the pulse becomes less frequent; the temperature falls, and frequently a sound and refreshing sleep ensues. As soon as these changes are observed the dose of the medicine may be reduced. The iron treatment may be combined with the use of stimulants, if there are indications for their employment.

Aconite (Pr. 38) is of marked service in erysipelas. Administered quite at the commencement it often cuts short the attack; and even when in spite of it the disease continues, aconite will reduce the swelling and hardness, lessen the redness, and prevent the inflammation from spreading.

One of our most eminent authorities on treatment has recommended aconite in the following cases:—"In children, after vaccination, perhaps when the spots have nearly healed, an erysipelatous redness occasionally appears, spreading over the arm and a greater part of the trunk, usually ceasing in one part, then successively attacking contiguous parts, and leaving a yellow discolouration and desquamation. The redness is often intense, the tissues being very hard, painful, and shiny, and this inflammation may continue for weeks. It may run down the arm, involve the hand, and implicate the greater part of the chest; or it may appear in the leg, and gradually spread to the foot; or again, it may spread from the hand up to the arm, and once more down to the hand, and this may be repeated many times. Sometimes the inflammation terminates in small abscesses. In cases like these aconite generally at once arrests the inflammation; and even when it persists the redness is rendered less intense, and the swelling less hard and painful. The troublesome inflammation often arising after the vaccination of adults ordinarily yields to aconite, especially if supplemented by the local application twice daily of the belladonna ointment." In all these cases the aconite may be given in the form of the aconite mixture (Pr. 38), a tea-spoonful every ten minutes for the first hour, and subsequently hourly.

Belladonna certainly proves efficacious in many cases of erysipelas. It usually

does most good in the simpler forms where no vesicles or bladders have made their appearance on the surface. It is especially indicated when there is violent headache with thirst, constipation, or brownish-red thick urine. It is also useful when either delirium or lethargy is a prominent symptom. In the early stages of the disease it may be given alternately with aconite, first a dose of one and then of the other. It may be conveniently administered in the form of the belladonna mixture (Pr. 39), a tea-spoonful every quarter of an hour for the first hour, and subsequently hourly.

So much then for the internal remedies. We must now consider the best method of local treatment. It is very desirable to avoid exposing the affected part to variations of temperature, and with this view it may be lightly covered with dry cotton wool so as to protect it from draughts. Ointments and cooling lotions, by interrupting the natural functions of the skin, often do mischief.

A solution of nitrate of silver has been strongly recommended as a local application in erysipelas. The success of this mode of treatment depends entirely on the mode of conducting it. In the first place the skin of the affected part must be well washed with soap and water so as to remove greasy matters, then again with simple water, and then it must be wiped quite dry. Finally a solution of four scruples of the brittle stick of nitrate of silver in four drachms of water is to be applied twice or three times to the inflamed surface, extending for two or three inches in each direction beyond the margin.

Collodion is not unfrequently used as a local application in cases of erysipelas. It usually proves far less efficacious than the solution of nitrate of silver, and when painted over large surfaces it often not only fails to do good, but in consequence of its cracking and leaving rough edges, not unfrequently does positive harm.

EXPECTORATION.

Expectoration is merely a symptom, and is not in itself a disease. It seldom occurs except as an accompaniment of cough. The secretion of the lining membrane of the bronchial tubes in a perfectly healthy person is almost entirely destitute of matter to be expectorated. In the normal state, the secretion of the bronchial mucous membrane, though continually present, scarcely ever exists in superfluous quantity, for a certain proportion of it is carried off by exhalation or absorption. The moisture secreted by the lungs should contain nothing that the expired air cannot carry away in vapour, nothing that would leave any residuum which by its accumulation would at length require to be expectorated. A perfectly healthy person living in a pure atmosphere has no expectoration whatever. We say living in a pure atmosphere, for town-dwellers commonly hawk up a little black phlegm the first thing in the morning. This, consisting as it does chiefly of "blacks," is not to be considered as any indication of a departure from the normal condition of health. In disease there is a secretion of unhealthy mucus which cannot be got rid of in the usual way, and must be expectorated. Hence it is that persons in whom a chronic condition of congestion of the bronchial tubes has been generated by repeated colds have a secretion of superfluous matter always going on, and are

constantly expectorating. This may continue for years without causing much inconvenience, the principal annoyance from which the patient suffers being in getting up the phlegm in the morning. It is a remarkable fact that, though a person may cough violently in his sleep, he never expectorates.

An examination of the expectoration is useful not only in enabling us in many cases to determine the nature of the disease, but as affording many a useful hint for treatment. The sputa in pneumonia or inflammation of the lungs, for instance, is very characteristic. It is of a brick-dust colour, and is so viscid that the vessel in which it is contained may be inverted without spilling the contents. In bronchitis, you may get many different kinds of expectoration. If the patient do not expectorate till after a long fit of coughing, during which the air has been many times inspired and expired, and has thus become intimately mingled with the mucus contained in the air passages, the expectoration will contain numerous little air-bubbles, and will be very frothy. After a time the mucus loses by degrees its transparency, is mixed with masses or pellets that are opaque and of a yellow-white or greenish colour, and these masses, few at first, increase more and more in number until they constitute the whole of the sputa. Such expectoration as this is commonly marked by a remission in the symptoms. It will sometimes happen that the expectoration, having thus become opaque and parti-coloured, will go back again to its former condition of temporary stickiness and froth, and this is to be regarded as a sign of a return or extension of the complaint. By the character of the expectoration alone we are in the majority of cases enabled to distinguish between bronchitis and pneumonia. In one kind of bronchitis pieces are expelled which are complete casts of the bronchial tubes, and when spread out in water look like little trees. This complaint is known as "plastic" bronchitis. Many different kinds of expectoration are met with in consumption, but there is no form which to the naked eye can be regarded as a positive indication of the existence of that disease.

As we have said, the character of the expectoration may sometimes be employed as a guide to treatment. Thus, when there is profuse easy expectoration with nausea or vomiting, small doses of antimony wine are indicated. When it is tough and stringy and expelled with difficulty, bichromate of potash often does good. When loose and worse on lying down, pulsatilla may be given, especially in the case of women and children. Nitric acid is useful in old-standing cases, especially when the more active lung symptoms have subsided. Brown-coloured expectoration is considered by many to be an indication for the use of phosphorus. Sulphur is given when the mucus is yellow or white, and when there is any concomitant skin eruption. Arsenic is used when there is much debility and a tendency to asthma. Details as to the mode of administration of these medicines will be found under the head of COUGH and in other parts of this work.

EYE, DISEASES OF.

Black Eye.—A black eye is of such common occurrence that it needs little or no description. It is an effusion of blood beneath the skin of the lids and adjacent parts. The blood is absorbed in a week or ten days, the bruise presenting in

turn all the colours of the rainbow. The application of cold immediately after the receipt of the blow will stop the effusion of blood, and diminish the extent of the discoloration. A fold of soft lint dipped in cold water and laid on the eye will answer the purpose admirably, or we may use an evaporating lotion made by adding two and a half ounces of rectified spirit to half a pint of water. Small pieces of ice wrapped in india-rubber or oiled-silk answer well. From time immemorial, special virtues have been ascribed to raw beef-steak in the treatment of black eye, but on what grounds we do not know. Tincture of arnica is an admirable application. It may be painted round the eye with a small camel's-hair brush, or twenty drops of the tincture may be added to half a cupful of cold water, and used as a lotion. The arnica should be used as quickly after the receipt of the blow as possible. When the discoloration has already commenced we prefer a hamamelis lotion, made by adding one part of tincture of hamamelis to six parts of water. It should be applied on lint, and covered with oiled-silk. An infusion of rosemary is often used for the same purpose. A remedy employed by pugilists is a poultice of black bryony-root. It is made by mixing the root, scraped fine, with a little bread poultice; this is placed over the eye, and allowed to remain there for some hours. It has an excellent effect in removing the discoloration. The black bryony grows in hedges and thickets all over the country, but in London the root is not always easily obtained. Some of the large chemists keep it, whilst sometimes it may be met with in Covent Garden. In the absence of the root, the bread poultice might be mixed with tincture of bryony, which can be had from any chemist. It is often proposed to puncture the discoloured part and let out the blood, but this should never be done, for the blood is clotted, and would not flow out, and there would be risk of matter forming or erysipelas setting in. It is often supposed that prize-fighters have some special means of dispersing the signs of their recent encounters, but it does not appear that they use anything beyond the raw beef-steak and the bryony poultice. It must be remembered that these people are young and hardy and in good condition, so that naturally the processes of absorption and reparation are carried on quickly. Moreover, their exhibitions—their sparring matches and so on—are usually given by gaslight, when any discoloration would be easily overlooked. There are people called “artists in black eyes,” who, for a half-crown or five-shilling fee, in a few minutes, by the aid of a box of paints, remove all signs of injury. These gentlemen can be heard of by application to the inspector at the police station. Information on the subject will be found in Dickens's “Dictionary of London.”

Blows on the Eye may injure the sight, or even totally destroy it. People have been blinded before now by a cork flying from a soda-water bottle, and a lash from a whip may produce equally disastrous results. The exact nature of the injury could not be made out without a thorough examination, and skilled advice should be sought without delay. The injury may give rise to bleeding in the interior of the eye, to cataract, laceration of the parts, and other serious conditions, requiring careful watching and judicious treatment. Indirect injury to the eye sometimes results from blows or falls on the head.

Foreign Bodies in the Eye.—This subject will be found fully discussed in DOMESTIC SURGERY, and the directions there given should be followed. Sand,

flies, hairs, and similar bodies may usually be removed by bathing or syringing; but should this fail, the eye may be gently wiped towards the nose with a soft moistened handkerchief or with a feather. Coal-heavers, when they get dust in the eye, ask one of their mates to pass his tongue over the eye and the inner surface of the eyelid, and in this way the foreign body is removed. A good plan is to gently brush the eye with a camel's-hair brush moistened with oil or gum. Mortar or lime in the eye gives rise to great pain, and may permanently injure the sight. The eye should be thoroughly washed or syringed with a little weak vinegar and water, and the sooner this is done the better. Should much irritation continue after the removal of the foreign body, two or three leeches may be applied to the temple, and the eye should be bathed with tepid water, or a poppy fomentation may be used. A belladonna fomentation, made by dissolving sixty grains of extract of belladonna in a pint of boiling water, is also useful. Workers in places where splinters of metal, stone, or wood are liable to strike the eye should wear spectacles at their work with strong glass in them—not lenses. These common glass spectacles are also useful in railway travelling, as a protection against a spark or cinder flying in the eye.

When, in travelling, a bit of dust gets in the eye, it is best to remain quiet for a little, as the tears may wash it away; the flow of tears may be promoted from time to time by attempting to open the eye. Blowing the nose violently assists the operation. The head of a pin covered with the end of a pocket-handkerchief, and moistened with saliva, may be moved about between the eyeball and eyelid, and will detach the intruder if not too firmly fixed. Another plan is to get a fellow-traveller to raise the eyelid with his fingers, and then gently wipe the red mucous membrane with a moistened pocket-handkerchief, or remove the foreign body if he can see it. A little piece of paper twisted to a point is useful. A drop of olive oil or castor oil introduced into the eye will often allay pain and intolerance of light produced by a fine irritant, as sand.

A piece of percussion-cap penetrating the eye only too often means loss of sight. It is an accident that rarely occurs to sportsmen, but is not of uncommon occurrence at country fairs and such places, where people shoot at a mark for nuts or oranges. Children, too, are fond of exploding caps with a stone or hammer, and this is frequently the cause of a mishap. Should the eye be struck, an ophthalmic surgeon should be consulted without delay, or not only may the injured eye be lost, but the other may suffer from what is called sympathetic inflammation.

Cold in the Eye, or *Conjunctivitis*, is not a very serious complaint. It may come on without any apparent cause, or may be the result of exposure to cold or draught. Sometimes it assumes an epidemic character, every member of a household being attacked in turn. It generally begins with a feeling of itching or irritation, followed by a sensation of grittiness, as if there were sand in the eye. The eye is red and watery, and a strong light is painful; in the morning the eyelids are stuck together, and cannot be opened without some difficulty, or until the sticky secretion has been sponged away with tepid water. Usually both eyes are attacked, although the cold may begin in one before the other. If properly treated it soon gets well, recovery being perfect, and no trace of injury being left behind. In the first place, the bowels should be acted on freely by some simple purgative, such as the aperient

pill (Pr. 60) at bed-time, followed by the saline draught (Pr. 25) in the morning. The eyes should be bathed every two or three hours with an alum lotion, made by dissolving six grains of alum in an ounce of distilled water. In the intervals they may be washed with tepid water, to keep them free from discharge. A little spermaceti ointment or warm mutton suet smeared over the edges of the eyelids at bed-time will prevent them from sticking together. When there is much fever the aconite mixture (Pr. 38) may be used with advantage, and when debility is the prominent symptom the tonic quinine mixture (Pr. 9) half an hour before meals, followed by a couple of tea-spoonfuls of cod-liver oil three times a day immediately after meals, will do good. The patient should stay in the house if possible, and should not use the eyes more than is absolutely necessary. The usual duration of a cold in the eye is from three or four to ten days, but in bad cases it may last a fortnight.

When a cold in the eye becomes chronic it is far less amenable to treatment. It may be the sequel of an acute attack, or it may result from the irritation caused by exposure to smoke or to the fumes from chemicals; crowded rooms and dusty occupations also favour its occurrence. There can be no doubt that in many cases it is contagious, and in large schools it sometimes assumes an epidemic form, and may last for years. In these cases it is a good plan to use a lotion, containing three grains of alum and one grain of sulphate of zinc to the ounce of water. A small blister to the temples or behind the ears will relieve the pain and intolerance of light. Should the patient object to a blister, a piece of mustard-leaf will answer almost as well. When the eyes are very red, arsenic may be given—a tea-spoonful of Pr. 40 every three or four hours; when there is reason to think the eyes have been overstrained complete rest should be enjoined. Reading in a bad light or in the train, doing fine needlework, and casting up figures will be found especially injurious, and if indulged in for any length of time will do much to retard recovery. The greatest attention must be paid to the general health, and in the case of children steel wine and cod-liver oil should be given freely. For town dwellers nothing does more good than a change to a good bracing atmosphere. In schools and other large institutions the same towel should never be used by the affected and healthy, and the most scrupulous attention must be paid to cleanliness and ventilation.

Ophthalmia, or inflammation, with formation of matter, may be regarded as a very severe form of the preceding. It arises most commonly when people are crowded together in filthy, ill-ventilated habitations. It is common in Egypt, and is said to have been introduced into this country by our troops in the beginning of the present century. It is of frequent occurrence in workhouses, pauper schools, and convict establishments: in fact, in all places where a number of people occupy the same dormitories and use the same lavatories. The constitutional symptoms to which it gives rise are severe, and the risk of permanent injury to the sight is very great. It usually commences with a slight discharge and swelling of the lids, and the discharge quickly increases and becomes converted into matter. In mild cases the treatment is that already laid down for cold in the eye, but in the more severe forms this will not suffice, and the attendance of a medical man is absolutely necessary. It is decidedly infectious, and if the greatest care be not taken it will spread. Should it break out in a school, the sufferers should be at once isolated, and if possible sent

right away ; unless this precaution be taken, one child after another goes into the infirmary with "bad eyes," and the cases increase in number and severity day by day and week by week. Matters proceed from bad to worse ; the whole establishment is disorganised, nurses and helpers suffer, many eyes are irrevocably injured, and a public scandal is created. When there is an outbreak, a doctor should be called in at once, that he may examine systematically the eyes of every child in the institution. In this way he will be able to separate the unhealthy from the healthy. It is probable that the whole place will have to be fumigated or disinfected in some way before the disease can be stamped out. The washing arrangements will have to be so conducted that personal contact between the children is avoided. Each child should receive a dry towel from the attendant in charge, and should return it to him when done with. These towels are not to be used again until they have been boiled, or dried in a hot closet at a sufficiently high temperature to destroy their infectiousness. The same person should not attend on the healthy and the sick. An epidemic of "bad eyes" in a school or other institution is a most serious matter, and too much care cannot be displayed in stamping it out.

Inflammation of the eyes in newly-born infants often occurs when the mother at the time of her confinement suffered from a discharge. It may also arise from neglect of cleanliness, from exposure of the eyes to the glare of a hot fire, and from the use of irritating substances—soft soap and spirit, for example—with which children are often washed soon after birth. It generally comes on when the child is a day or two old, and usually it is first noticed that there is a slight discharge from the eyes, and that the edges of the lids are glued together during sleep. The secretion is at first clear and watery, but soon gets thick, like matter. The more profuse the discharge and the deeper its colour the more serious is the case. The treatment consists in washing away the secretion as often as it collects with some astringent lotion, that will check its formation. The lotion may be made by dissolving a drachm of alum in half a pint of water. It should be used every hour, or oftener, according to the amount of discharge, both day and night. The nurse should lay the child on her lap, turning its head to one side or other, according to the eye to be washed out. With the finger and thumb of the left hand she holds the lids open, whilst with the right hand she squirts into it with a small glass syringe a good stream of lotion. It should be directed outwards away from the nose, so that the lotion runs over the eye into the napkin on which the child's head rests. If an efficient nurse cannot be obtained, the lotion may be applied by means of a soft camel's-hair brush, but this is far less effective than syringing. A good way of preventing the child from struggling is to place it with its arms by its side on a shawl or long towel, which should be wrapped round it several times, leaving only its head out. The lotion may be slightly warmed by placing a little in a cup in front of the fire for a minute or two, or by the addition of warm water. A little spermaceti ointment applied to the edges of the lids will keep them from sticking together at night. The child should be kept in a warm airy room until all inflammation has subsided, and it would be as well not to have the room too brilliantly lighted. Plenty of good breast milk is essential, and should the mother's supply be deficient a wet-nurse must be procured. The most

unremitting attention must be paid to cleanliness, or there will be danger of the sight being permanently injured. The pulsatilla mixture (Pr. 43), in five-drop doses every hour, often does good.

The following remedies are of occasional value in the treatment of inflammation of the eyes occurring either in children or adults :—Aconite (Pr. 38) when there is considerable elevation of temperature with quick pulse, dry skin, and great thirst, especially when the attack is due to exposure to cold. Belladonna (Pr. 39) when there is throbbing pain in the temples or eyes, with great intolerance of light. Arsenic (Pr. 40) when the secretion is acrid and burning, and there are tearing or stabbing or stinging pains in the eyeball. Arnica (Pr. 42) when the inflammation arises from some mechanical injury. The arnica lotion (Pr. 94) may then be used as an accessory. Pulsatilla (Pr. 43), when the eyelids stick together and there is an increased secretion of tears with neuralgic pains in the eye. Corrosive sublimate (Pr. 48) in very acute attacks. Phosphorus (Pr. 53) in obstinate cases resisting all ordinary treatment. Cod-liver oil often does as much good as anything in delicate children.

Gonorrhœal Ophthalmia—that is, inflammation of the eyes resulting from Gonorrhœa—is a most serious complaint, and a doctor should be consulted without a moment's delay.

Blar Eyes—The condition known by this name is usually the result of a previous attack of inflammation. The lids are everted, and are red and swollen. Often there is a sense of grittiness or heat in the eye, and there may be some discharge—sufficient, perhaps, to gum the edges together in the morning. The use of an alum lotion—a drachm to half a pint of water—may do good, and benefit is often experienced by improving the general health. Iron and quinine, with cod-liver oil, may be taken with advantage. The arsenic mixture (Pr. 40) or the pulsatilla mixture (Pr. 43) may do good. Change of air to a warmer atmosphere is often beneficial. The application of spermaceti ointment to the lids at bed-time may be tried ; as a rule, however, it is best to consult an ophthalmic surgeon.

A Sty is a little boil, occurring at the edges of the eyelids among the eyelashes. It gives rise to some pain and inconvenience, but nothing more. It is most commonly met with in the weak and debilitated, and in them is prone to occur after long-continued employment of the eyes by artificial light. Probably the best remedy is pulsatilla, either alone or alternately with aconite. A tea-spoonful of Pr. 38 and Pr. 43 may be given alternately every hour. This is the dose for an adult ; for a child a proportionately smaller dose would be required, according to age. Fomentation with hot water during the day and a bread-and-water poultice covered with oil-silk at night will be found useful. Pulling out the lashes most involved sometimes effects a cure. If the sty will not break, pricking it with a needle and squeezing out the contents will usually put an end to it. To prevent their recurrence the health must be improved, and with this view cod-liver oil or pancreatic emulsion may be given.

Twitching of the Eyelids, sometimes known as “ Life Blood,” is a spasmodic condition of the muscles surrounding the eye. Sometimes it is so slight that it can hardly be seen, although the patient distinctly feels the quivering, but not unfre-

quently the twitching is perfectly obvious. As a rule, it affects one eye only. It generally comes on as the result of worry or over-work, and is not uncommon in business men. It is rather a feeling of discomfort than of actual pain. It may result from over-indulgence in alcoholic liquids. The patient often wishes to get rid of it, not because it gives him pain, but because people notice it, and think he is nervous or has been drinking. We remember a traveller who was most anxious to be cured, because he had to go about soliciting orders, and found that no one would deal with him; "they suspected a man who could not keep his eyes straight and look them in the face." Probably the best treatment is *nux vomica* (Pr. 44) or *pulsatilla* (Pr. 43); should one fail, the other may be tried. Often enough, however, it gets well "by itself," as we say. The bowels should act freely, and the state of the digestion should be inquired into. When there is debility, iron or quinine, or both, may be given.

Colour-blindness.—This is a defect of sight by which the power of distinguishing colours is either impaired or altogether lost. It is a subject of great interest, and even of national importance. When we consider how many lives are daily dependent, by land and sea, upon the accurate recognition by one person of the colour of a lamp, how many accidents, otherwise inexplicable, have resulted from inability to distinguish colours, we are astonished that the subject has received so little consideration in this country. Colour-blindness must have existed at all times, but the first case of which we have any authentic record was published towards the end of the seventeenth century. A century or so later came the case of the great philosopher Dalton, whose description of his own red-blindness is so well known as to have led many to apply the term "Daltonism" to colour-blindness. There is a curious story related of Dalton, which illustrates very aptly his want of appreciation of colour. He had to be presented at Court, and being a member of the Society of Friends, some little difficulty was experienced with regard to his dress. He declined to wear the sword, which is an indispensable appendage of ordinary Court dress. The robe of a doctor of civil laws was known to be objectionable on account of its colour—one forbidden to Quakers. Luckily it was recollected that Dalton was colour-blind, and that as the cherries and the leaves of a cherry-tree were to him of the same colour, the scarlet gown would present to him no extraordinary appearance. So perfect, indeed, was the colour-blindness that this most modest and simple of men, after having received the doctor's gown at Oxford, actually wore it for several days in happy unconsciousness of the effect he produced in the street.

As a rule, a colour-blind person sees red and sea-green as grey, scarlet and green as yellow, and rose-colour and blue-green as blue; whilst he can distinguish the shades of red from each other, and also the shades of green from each other. If such a person look at a red and a green through a red glass, the green will appear darker, but the red will be nearly as bright as before; through a green glass the red will be darkened, but the green will be but little altered. In this way colour-blind persons may distinguish the colours of a Turkey carpet. It is rare for a person to be utterly destitute of all perception of colour, unless there be, in addition, some other disease of the eye.

The proportion of the colour-blind to the population generally is about four or

five per cent. In America it is said to be less common. Women are rarely colour-blind. It is frequently hereditary, and as a rule remains unaltered throughout life. It is said that intermarriages favour its occurrence, but really little or nothing is known about its cause. In exceptional cases it comes on in adult life, possibly from over-use of the eyes or the constant strain of looking at colours. After a railway accident from not distinguishing the red light, the engine-driver confessed that for some time he had been losing the power of recognising colours, and so sensible was he of his deficiency in this respect that he was on the point of resigning his post when the disaster occurred. The necessity of testing for colour the eyes of porters, engine-drivers, signal-men, navigating-lieutenants, and others employed on railways or at sea is obvious. As a matter of fact, most railway companies do subject their officials to a colour test, but the examination rarely extends much beyond the exhibition of green, white, and red coloured lamps, a method which is insufficient to test those cases in which there is not absolute colour-blindness, but only impairment of the sense of vision in this respect. A man may be able to discriminate between red, blue, and green light transmitted through glasses of these colours, but may confound pink with green worsteds; and it is known that certain conditions of the atmosphere may give to a red light just that kind of tint which would confuse such a man, and would justify his rejection as a driver on a railway. The best way of testing the sight for colour is to take a large number of pieces of worsted, variously coloured, and direct the subject of examination to sort them. A single error would settle the point; the tints most likely to be confounded are pinks and light greens. It must be remembered, too, that the colour-blind can distinguish reds and greens better by an artificial light than by daylight. Care should be taken in testing for colour-blindness, that mere ignorance of the names of colours is not mistaken for colour-blindness, and thus a child be proscribed a business in which he might have succeeded.

For this complaint there is no cure and hardly any palliative remedy. It is said that if a colour-blind person would wear a pair of spectacles with one eye red and the other green, he might in time be enabled to form a judgment of red and green things intuitively.

Snow Blindness is a temporary loss of sight, caused by looking at the dazzling whiteness of the snow. A similar condition may result from looking at an intense artificial light. Lighthouse keepers, after trimming their lamps at night, are often for some minutes absolutely blinded, and do not completely recover for many hours. The only thing is to wear dark blue spectacles, so as to cut off the glare of the light.

Night Blindness, or impairment of sight, varying from slight dimness to almost complete darkness after the sun has gone down, occurs most frequently among sailors and others who have spent much of their time in the tropics. The glare is so great during the day that the eye receives little or no impression from an object not brilliantly illuminated. The production of this condition is much favoured by debility and weakness, and it is not of uncommon occurrence in connection with scurvy (see SCURVY). The great thing is to give the eyes rest, and to improve the general health by change of air, the administration of tonics, and so on. Absolute darkness for a few days, or even weeks, till the attack is overcome, is better than

merely shading the eyes, and it gives a quicker result. Shading is a proper precaution for a time—a month or more—after the eyes are apparently right again.

Specks before the Eyes, or *Muscae volitantes*, are of common occurrence in connection with megrim, or sick headache (*see* MEGRIM). They often occur, however, without any accompanying headache. Their great characteristic is their incessant movement, for by no effort of the will can they be kept quiet even for a moment. They come into the field of vision, traverse it, and then suddenly disappear. Sometimes they are black, and at others quite bright, like little specks of light. They are seen quite as distinctly when the eyes are closed as when they are open. They may occur at any age, but are most common in those who have passed the meridian of life, and often enough they are associated with short-sightedness. Sometimes they depend on an abnormal perception of particles of dust floating in the fluid which moistens the eye, at others they are due to little particles floating about in the interior of the eye itself. They are usually most troublesome when the eyes have been tried over any fine work, especially if performed by candle-light, and they are intensified by worry and anxiety, or by anything which overtasks the brain or lowers the health. They do no harm, and as a rule cause no inconvenience. They may last for years, and then, perhaps from some change in occupation or mode of life, take their departure. If they are persistent and cause much uneasiness, it would be as well to have the eyes examined by an ophthalmic surgeon, to see if they are sound. Should no fault be detected, the patient cannot do better than live quietly and steadily, keep in as good health as possible, and ignore them. They should not be looked for. Plain glasses of neutral tint or dark cobalt-blue may render them less apparent. When there is anaemia, iron will often effect a cure (*see* ANÆMIA). In other cases belladonna (Pr. 39) may prove useful.

Sometimes we meet with specks before the eyes which, instead of being in constant movement, are quite stationary. These are of more serious import, and may be the precursors of cataract or other organic disease of the eye. They are often associated with impairment of vision. In these cases an ophthalmic surgeon should be consulted.

Pain in the Eyes after reading or minute work of any kind is often due to spasm of the muscle of accommodation. Engravers and workers with the microscope frequently suffer severely. The pain comes on after prolonged application, and is usually of a dull aching character. Not unfrequently it is attended with a little feeling of sickness and considerable depression of spirits. The best thing is to lie down in a dimly-lighted room when the pain comes on, and place over the eyes and eyebrows a pad of lint dipped in cold water. A small piece of mustard-leaf to the temples or behind the ears will ease the pain. We have found relief from bathing the eyes with a very weak solution of atropia—it need not be of any definite strength, but may be prepared by putting a drop or two of the solution of atropia (*liquor atropiae*) in a tumblerful of water. It is to be used occasionally as a lotion but must not be taken internally. Arnica often does good; it should be taken according to Pr. 42, and also applied locally in the form of the arnica lotion (Pr. 94). When the pain is the result of prolonged work by gaslight, nux vomica (Pr. 44) may be used.

Cataract.—By the term cataract is meant an opacity of the crystalline lens, or

of its capsule, or of both. The lens, instead of remaining clear and transparent, becomes opaque, like ground glass. There are two kinds of cataract: hard and soft; the former occurring after the age of, say, thirty-five, and the latter occurring in young people. Cataract is said to be *congenital* when it dates from birth, it is *traumatic* when the result of injury, it is *secondary* when it follows some other disease of the eye, it is *diabetic* when the result of diabetes, and it is called *senile* when it is the result of old age. Doctors often use these terms, and it is just as well to understand what is meant by them. There is no doubt that in some cases cataract is hereditary, and it frequently occurs in several members of the same family. When the parents are first cousins the children often suffer from cataract or other congenital defects. Traumatic cataract may arise from a blow or other mechanical injury. If there be rupture of the external coats of the eye, injury to the lens is almost certain to occur. Diabetic cataract is very similar in character to that of senile decay, and is, no doubt, due to the imperfect nutrition of the whole system. Senile cataracts usually occur at from fifty to fifty-five years of age. One eye may be attacked, or both. In some patients the progress of the disease is rapid, whilst in others it may last many years.

In cataract, the first thing noticed by the patient is, as a rule, indistinctness of sight, or mistiness. Things at a distance are seen with difficulty, and seem as if they were being viewed through a mist or fog. As the disease progresses, near objects are also seen less clearly. People with cataract see best in twilight, or in a dull, subdued light, because then the pupil is more widely dilated. They often shade their eyes with the hand when they wish to look at anything, and they not unfrequently take to wearing neutral-tinted glasses, or even goggles. The patient sees better in an oblique than in a straight direction. From the gradual way in which the complaint comes on, a natural, easy manner is retained, very different from the fixed vacant stare which marks some forms of loss of sight. Indeed, the sufferer never becomes so blind from mere cataract that he cannot distinguish night from day, or make out the position of the window and the shadow of passing objects, and usually he is able to find his way about a house he knows with little difficulty. Objects sometimes seem double, or assume fantastic shapes. The moon is often mentioned as showing these changes remarkably well. Many patients with cataracts see dark motionless specks before the eyes. Medicinally there is little or nothing to be done for cataract. The only thing is to go to an ophthalmic surgeon and place the matter in his hands. There are several different modes of operating for this affection, but the details of these proceedings it would be futile to describe. When children are observed to avoid a bright light in reading or study, or when it is noticed that they hold the book more or less on one side, and nearer the eye than they should, it may be suspected that they are beginning to suffer from cataract, and it should be seen to at once.

Squinting, Squint, or Cross Eye.—This is a condition in which the axis of one eye is not parallel with the axis of the other; that is, the two eyes do not work together. If the squint be directed inwards, towards the nose, it is said to be a *convergent* squint; if outwards, it is a *divergent* squint; if confined to one eye, it is *monocular*; if the squint alternate between the two eyes, it is *binocular*.

Squint may begin at any age, but commonly it is first noticed between the ages of five and nine. Mothers sometimes tell us that the baby was born with a squint, and it is quite possible. We all know that children are sometimes born with a club-foot, and there seems to be no good reason why they; or rather some of them, should not come into the world squinting. In fact, all babies have somewhat of a squinting appearance—it is very slight, of course, and it is extremely difficult to decide at first if there is really a squint or not.

The causes of squint are somewhat obscure. It is said that a child may learn to squint from imitating other people, but this seems very doubtful. It is a common opinion, but there is very little foundation for it. Then it is said that habitually looking at a scar or speck on the nose may induce it, and this is just possible. Many children squint after a violent fit of passion. A child has squinted for months after being left to cry alone in a dark room. In one little boy the affection appeared from bathing him in the sea in spite of his earnest protestations by screaming and struggling. It sometimes comes on as the result of the irritation caused by teething or by worms. It sometimes follows measles and scarlatina, or it may be associated with a general condition of ill-health. Sometimes it comes on in the course of tubercular meningitis and other affections of the brain, and it is then a bad sign.

It is often by no means an easy matter to say which eye it is that squints. The following test has been suggested :—Make the person stand some four or five yards in front of you in a fairly good light; tell him to cover one eye, say the left, to look at you with the other, and to keep the head straight. The right eye will then be in the centre of the orbit. Now make him uncover his left eye. If the right eye which has been open be unaffected it will keep its central position, while the left is turned inwards; but if it be the one at fault it will turn in, while the left will become straight. The experiment should be reversed by making him cover the right eye, whilst the left remains open. In the case of a child, a grown-up person must stand behind and cover or uncover the eye as required. If the matter is still in doubt the patient should be made to blink several times. Every now and then cases are met with where nothing but a most prolonged and careful examination will settle the question as to the existence of a squint or not.

When we come to the question of treatment there is really very little to be said. If the condition of the eyes is dependent on, or follows, scarlet fever, whooping-cough, or some such constitutional complaint, hopes may be entertained of recovery, and the same may be said of cases due to worms, teething, &c., but in other cases mere medicinal treatment will be of little avail, and the surgeon's art will be required before a cure can be effected. When the squint is the result of some imperfection of the sight, remedying this by appropriate glasses may effect a cure, but in the large majority of cases it will be necessary to divide the muscle at fault. The operation in skilled hands is not a dangerous one, and all pain is obviated by the administration of an anæsthetic.

Artificial Eyes.—So many people have unfortunately to wear an artificial eye that a little general information on this subject may prove acceptable. Artificial eyes have been used from the remotest times to remedy the deformity arising from a shrunk eye, and it is said that they have been found among the mummies of

ancient Egypt. Formerly they were made of gold, copper, glass, porcelain, and other substances, but now enamel is always used. The artificial eye is not a globe, but is a mere shell, painted on the front to represent what henceforth will be its fellow. The adaptation and correspondence involve much more than merely matching the colour. Some artificial eyes are so well made and so carefully adapted that they escape detection not only by casual observers, but also by doctors conversant with the strides made of late years in this department. It is essential that the eye should not be too thick, on account of its weight, and it must not be too thin, or it will be brittle. There are many advantages in wearing a false eye after the true one is lost. Let alone the question of appearance, it keeps the eyelids in their proper position, it prevents the lashes from turning inwards and producing irritation, and it prevents foreign bodies from entering the eye. Many a servant wears an artificial eye without his employer being aware of it. It is sometimes necessary that the stump of the eye—the remains, that is, of the true eye—should be adjusted to fit the artificial eye and ensure the proper movements, but this is readily done by a medical man. An artificial eye should never be worn except at the advice of a medical man. Its use should not be commenced too soon after the loss of the true eye, for the stump continues to shrink for some time, and yet the wearing of the eye must not be delayed too long, or the eyelids may contract.

The mode of introducing the artificial eye is very simple. Hold it between the forefinger and thumb, and wet it by dipping it in water. Then push the broad outer end under the upper eyelid, and slide it upwards towards its destined position as far as it will readily go; retain it there with the forefinger of the one hand, and with the finger of the other hand draw down the lower eyelid till the lower edge slips in. To remove it, depress the lower eyelid with the finger, pass the finger-nail, a tooth-pick, or any little blunt instrument under the edge of the eye, lift it forward, and let it slip out. Catch it in the hand, or on a handkerchief, or let it fall on the bed. Do not drop it, or you may injure it. After a little experience it is no more difficult than pulling off your boots. It should be removed every night at bed-time, and not replaced till the following morning. Should this precaution be neglected, the part beneath may get sore and irritable. After removal it should be dipped in tepid water, wiped with clean lint or an old soft pocket-handkerchief, and put in a box on cotton. Many people leave it in a tumbler of cold water all night, but this is a bad plan, as it is very apt to become cracked on the surface, and the impurities of the water tend to roughen the enamel. Should grease collect on the surface, it may be removed by wiping it with a piece of lint dipped in spirit. After about a year the eye loses its polish, and the enamel becomes rough, and then it is necessary to procure a new one.

Short-sightedness.—People who are short-sighted—or “myopic,” as it is technically called—can usually see clearly near objects, but are unable to make out those at a distance. Myopia—that is, short-sightedness—is nearly always hereditary. Having once occurred, it is almost sure to be transmitted to the children, and the offspring of very short-sighted parents hardly ever escape the defect. As a rule, it does not manifest itself until the age of eight or nine, and it is unusual for it to appear after the age of fifteen. Still, it may be acquired, and is sometimes produced artificially,


as we say, in students, watch-makers, steel-plate engravers, and others who for many years have applied their eyes for many hours daily to fine work or literary pursuits. Thus, myopia may be regarded as one of the evils of civilisation and high mental culture. It is almost unknown in barbarous nations; and it prevails chiefly among the cultivated class, who in childhood and youth have spent many consecutive hours in close study. It is rare amongst the poor, and it is less common in country districts than in large towns. It makes all the difference whether the eyes are for years daily employed in looking at walls a few feet distant, or, as in the country, at mountains and woods perhaps many miles off. It is said that with the spread of education myopia is daily becoming more general. At one college in Oxford 32 out of 127 students were short-sighted, and in Germany it is excessively common.

The treatment of near-sightedness consists in wearing concave lenses, either in the form of spectacles or double glasses. A concave glass $\overline{\cap}$ is one that is hollowed out, or thinner at the centre than at the edges, thus: $\overline{\cap}$. A single eye-glass should never be used. It is often necessary to have two pairs of spectacles or eye-glasses, or one pair of spectacles and one pair of eye-glasses, the stronger pair being for distant objects, and the weaker for ordinary reading. It must be remembered, too, that one eye is often far more short-sighted than the other, and in that case it would not be right to have the two lenses in a pair of glasses of the same strength. It is a matter of such importance to obtain glasses of proper strength in these cases, that the spectacles should never be purchased at random of a vendor or oculist—in fact, no good optician would undertake the responsibility of recommending a pair. The right thing is to go to an ophthalmic surgeon or to a physician who has made the subject his study, and get him to go thoroughly into the case. For want of this little precaution many a sight has been hopelessly ruined. No medicine will cure short sight, but there are certain general directions for myopic patients to which attention should be paid. In the first place, a stooping position must be avoided, as it tends to cause congestion of the eyes. In reading, the head should be well thrown back, and the book should be brought to the eyes, and not the eyes to the book. It is a bad plan to read books printed in narrow double columns, for it is a great strain for the eye to travel from one short line to another. Reading whilst driving or in a railway carriage is also injurious to short-sighted people. Reading by a flickering gas-jet is also very bad; at night a reading-lamp should be used with a shade which throws the light on the book and leaves the rest of the room in darkness. When the eyes are tired and weary with reading or writing, stop for a time, and do not begin again until they are rested. If the eyes feel hot and irritable, lie down in a dimly-lighted room, and cover them with a fold or two of lint which has been dipped in cold water.

A recent writer, speaking of the prevalence of short sight in children, says:—“There is no doubt that deficient and improperly-admitted light in school-rooms is one cause of the rapid progress of this optical defect. To sit facing a light during study, for instance, is extremely injurious to the best eyes. On looking up, the eye becomes saturated with light, and then, on turning to the printed page, an effort must be made to overcome the dazzling and clear up the vision. The light should enter from above and at the side, so as to strike the page of the book, and not the

eyes, and it should be, if possible, a direct rather than a reflected light." After pointing out that deficient illumination is injurious, because it requires the book to be brought near the eye, he continues:—"School furniture is also ill adapted for the scholar, even if properly placed as regards light. The bench is too high for the desk, so that the pupil must bend over his work, thus favouring congestion to the head, and contributing to the congested condition at the back of the eyes; or the seat is too far away from the desk, and the head is therefore brought too near the book, so that the growth of near sight is directly encouraged. All these school-room imperfections might, of course, be of comparatively inferior moment, if it were not for the fact that children are obliged to spend six hours a day in school for nearly the whole year round. If the high-pressure system of education shall be succeeded, in course of time, by a system more rational, moderate, and healthful, the interior arrangements of the school-houses will not be so serious a matter. Any middle-aged person can look back to the days when near sight and weak sight among boys and girls were quite rare. It was not then the fashion to teach children everything—including drawing, music, and all the languages except English; nor was it then supposed that a sufficient amount of bodily exercise would neutralise the effect of an excessive amount of brain-work. Two and two then made four, and the brilliant notion that an exhaustion in one direction could be made good by an exhaustion in another direction was not then in vogue." When children show signs of becoming short-sighted, they should not be allowed to read or study more than is absolutely necessary. Get them away in the country, and encourage them to ride, and walk, and climb hills, and look miles and miles away. Short-sightedness usually becomes less marked as we grow older, but it does not follow that myopia is a thing to be desired.

Long Sight, or Old Sight, is one of the first of the legion of troubles which advancing years bring upon all of us. The patient finds that he has to hold his book at a much greater distance from the eye than formerly, and that the print seems less distinct. After a time there is more or less fatigue and confusion of sight in reading or sewing in the evening, especially if tired, and it is found comfortable to favour the eyes by frequent rest and change of occupation. A bright light is sought, because then the object is better illuminated. When the defect is fully developed, reading the newspaper is attended with difficulty, in spite of the best light and straining efforts to see. Letters which are like each other are not easily distinguished, single strokes appear double, and one dot seems to be two. Figures, as a rule, are more indistinct than letters.

Old sight generally makes its appearance between forty and fifty. It may come on slowly or comparatively quickly. General debility will hasten its onset, and often it is not complained of till after some accident, illness, or serious worry. The treatment of this condition is simple enough. The patient will have to go to an ophthalmic surgeon, and get measured for a pair of convex glasses—glasses that are thicker in the centre than at the edge, thus:—. As soon as the impairment of sight is noticed, glasses should be resorted to. There is no advantage in delay in their use. To endeavour to do without when they are wanted is always foolish, and puts the patient to much unnecessary inconvenience. For night work a higher

power is required than for day work. When the night spectacles are changed because they are not strong enough, they should be used in the daytime. It is a great thing to get a comfortable pair of spectacles or double eye-glasses; should there be any doubt about them they should be changed, always, of course, under the direction of the ophthalmic surgeon. Many people use a "reading-glass," from three to five inches in diameter, set in a frame with a handle, and there is no objection to it, although it is far less convenient than a pair of spectacles. Old sight does not of necessity mean old age, for some people suffer from this defect of vision before they are thirty.

Spectacles and Eye-glasses.—We must say a word or two on this subject. The absolute necessity of purchasing the glasses under the direction of a qualified person, and of not going into a shop at random and taking just what the shopman gives you, has already been pointed out. In the mechanical arrangement of the lenses there are two or three points worthy of attention. The frames should be of metal, and sufficiently strong to prevent twisting or loss of weight. Steel is probably the best, although some people prefer gold. Lightness is, of course, essential to comfort. The nose piece, or saddle, should be carefully adjusted to fit the nose. Their pattern is a matter of taste, though the oval is generally considered to be the most becoming. The lenses themselves may be made of crystal—that is, Brazilian quartz—or of crown glass. The crystal is harder than glass, and is therefore less likely to scratch, and is not so liable to get broken. Moreover, it takes a higher polish, and being more refractive, it may be made of less thickness than glass. The great difficulty is to get a piece of crystal free from specks and impurities. Dishonest dealers often supply crown glass for crystal. The best way to distinguish between them is to apply a file to the edge of the material; glass cuts readily, but crystal is much harder. Crown glass lenses are very good, and may be used when the spectacles have to be changed often, or when expense is an object. Tinted or coloured lenses are sometimes used, but only when they are made of glass. As a rule, they are objectionable, because they remove the natural stimulus of white light, and thus make the retina unduly sensitive.

Eye-shades are sometimes used with advantage, especially when a bright light is objectionable. They may be made of fine fabric, of gauze coloured black, or, what is still better, plain grey. It is curious that shades are not more largely used as protectors for the eyes by artisans and others employed in work producing chips or fragments. Blue gauze wire set in a spectacle frame would answer the purpose admirably, especially if it were somewhat cup-shaped, so as to guard the eyes at the side. When the particles are not hard or are not driven with force, and especially when accurate light is required, as in lathe-work, thick glass set as spectacles would suffice. For reading, a shape that will protect the eyes from the direct rays of light is useful.

FAINTING.

A fainting-fit arises from sudden failure of the heart's action. It is met with most frequently in young adults, especially in young females. Its occurrence is favoured by general debility or ill-health, and more particularly by anæmia, or

poorness of the blood. It is very common in young ladies who take very little out-door exercise, and spend most of their time on the sofa reading novels. Want of active occupation powerfully predisposes to fainting. People who are not very strong are most likely to faint after some unusual fatigue, or after long abstinence from food. A liability to fainting seems almost to be hereditary, so common is it in some families. Sometimes it is associated with heart disease, but in the vast majority of cases it is purely functional, and there is nothing wrong with that organ.

The determining causes of a faint are very variable in character. In susceptible subjects it may be brought on by any sudden impression on the nervous system. This need not of necessity be painful or unpleasant, for people may faint from excitement or excess of joy. For instance, the sudden announcement of the return of some long-lost relative, or of the favourable termination of a protracted lawsuit, may be the exciting cause. The sight of certain animals, such as a frog, or a black-beetle, or even a mouse, is quite enough to send some people off, whilst others faint immediately at the sight of blood, and even feel sick and faint if they read of an accident in the papers. We have all heard the story of the young curate who fainted on having to read the account of one of the sanguinary battles in the Old Testament. Medical students sometimes faint at their first operation. Such a trivial accident as pricking the finger will make some people feel sick and faint.

A fainting-fit is so sudden in its occurrence that it is not easy to describe it. Usually there is at first a feeling of faintness, then of sickness and giddiness, there is a blank before the eyes, and everything seems as if it were swimming about or going round and round, the face becomes deadly pale, the hands and feet get cold, the teeth chatter, and the patient feels as if she were sinking backwards, or going down and down ever so far. As the faint passes off and consciousness returns there may be a deep sigh.

There are one or two complaints from which a fainting-fit has to be distinguished. In the first place, from epilepsy. There is not the slightest difficulty in distinguishing it from an ordinary epileptic fit, but from attacks of epileptic vertigo or *petit mal*, as we call it, there is often very great difficulty, for they run so very closely together. In attacks of *petit mal* the fit comes on more suddenly, and the loss of consciousness is distinctly marked. In fainting the insensibility is not absolute, and when it is over the patient can often tell what occurred, although at the time she was unable to speak. Then again, people rarely faint without some definite cause. If a young woman sitting or lying down in a room with plenty of fresh air suddenly becomes insensible, without having received bad news or anything of that kind, it is something more than a mere faint, and is probably a fit.

There is usually little difficulty in distinguishing a faint from an attack of hysterics. In the latter case the patient will be found sighing, laughing, or crying, or endeavouring to attract attention in some way or other. Moreover, if you feel her pulse you will find that it is beating strongly, affording positive proof that the heart has not ceased beating. Of course a person who is habitually hysterical

may have a fainting-fit, but this is a circumstance which, if borne in mind, would give you no trouble as regards diagnosis.

You are not likely to confound apoplexy and fainting. Apoplexy may of course occur in young people, but is far more commonly met with in the middle-aged, or those advanced in life. A fainting-fit, moreover, is never followed by paralysis.

The danger of a fainting-fit is usually slight. In the great majority of cases the patient comes-to in a few minutes. If a person faints from a very trivial cause, it shows that there is some constitutional weakness, or at all events that the health is very much below par, and energetic treatment will have to be resorted to.

Next, as to the treatment of fainting. What are you to do for a person who is in a faint? If the patient has fallen on the floor, you should leave her in that position, and should on no account raise the head. If she has not fallen to the ground, but only back in a chair, put your hand behind her neck, and depress her head till you bring it right down between the knees. By this method, the blood runs down into the head, and this is just what you want: it is much better than lying the patient flat on the floor, for in that case, as the heart is not doing its work, you won't get the blood pumped up to the brain. You may sprinkle a little water over the face—a few drops will do as well as a larger quantity. When the face is pale and cold, use tepid water. A little ammonia or sal-volatile, or a bottle of smelling-salts, held under the nose, will often restore consciousness. Musk or camphor will answer almost equally well. It is a good plan to keep the hands and feet warm, and to chafe the chest over the region of the heart with a little spirit or eau de Cologne. As soon as the patient can be got to swallow, you had better give some brandy and water, or sal-volatile, or chloric ether, or any other stimulant that may be at hand.

To prevent further attacks, the great thing is to pay attention to the general health. Live as well as you can. Spend most of your time in the open air. Give up novel-reading, and go in for lawn tennis, croquet, or something of the kind. If you can, learn to ride, and take a good gallop every day. If you haven't a horse, don't forget that you have a pair of legs, and that a good brisk walk is one of the finest tonics in the world. A cold sponge-bath in the morning is good for you, but you may have the chill off just at first. Pay attention to your bowels, and see that they are open every day regularly. If not, you will learn from the article on constipation (*see* CONSTIPATION) what to do. If you are suffering from poorness of blood or *anæmia*, you will have to take iron (Prs. 1—7). If you are thin and weak, and badly nourished, cod-liver oil will be your remedy, or you may derive benefit from the hypophosphites (Pr. 55). If you are a town-dweller, try and get away in the country. A week or ten days in a country-house, or at a farm, will do you all the good in the world. If you go to the sea-side, try and get some sea-bathing. If you live in the country, get some one to invite you to come up to town for a bit, and do not hesitate to enjoy yourself as much as possible. A course of balls, and theatres, and concerts, or whatever your special form of dissipation may be, will do you no end of a lot of good—even more good than our medicines, and that is saying a great deal.

FEET—SWEATING OF THE FEET.

Offensive perspiration of the feet is a complaint from which many people suffer. It is often the cause of the greatest mental anxiety. We will give a few directions for its treatment. In the first place, the condition of the general health should be investigated. Should any fault be detected it must be set right. For anæmia or poorness of blood, iron (Prs. 1, 2, or 3) is the remedy; for loss of appetite, quinine (Pr. 9); for general debility, cod-liver oil; for mental anxiety or over-work, the hypophosphites (Pr. 55). The bowels should be kept regular. Out-door exercise should be taken daily. Stimulants are allowable only in the strictest moderation. Scrupulous attention should be paid to cleanliness. A cold bath should be taken every morning. The feet should be washed in tepid water night and morning, and oftener if possible. The addition of sea-salt to the water may do good, but when the perspiration has a sour acrid odour a little vinegar is better. The socks should be changed as soon as they get soiled, and they should be thoroughly washed each time, and not merely dried. The boots should have broad soles and square toes, so as not to cramp the feet; patent leather is to be avoided, and the same pair should not be worn every day. A dusting powder composed of equal parts of oxide of zinc and starch often proves useful; it should be sprinkled freely inside the socks. Belladonna liniment rubbed into the feet three or four times a day often effects a cure. Sometimes it fails, but on the whole it is a very reliable mode of treatment. Liquid extract of ergot in fifteen-drop doses three or four times a day sometimes does good. Some doctors employ an ointment composed of equal parts of lead plaster and linseed oil, spread on linen and wrapped round the feet, the application being renewed every third day for nine days.

FEVER AND FEVERS.—(*See* TYPHOID, TYPHUS, AND OTHER FEVERS. The Article on TEMPERATURE AND THE CLINICAL THERMOMETER may also be consulted.)

FLATULENCE OR WIND.

Flatulence, wind, spasms, or belching—for this affection is known by all these names—is one of the commonest symptoms of dyspepsia, and is often the one of which the sufferer is most anxious to be cured. Dyspeptics nearly always complain loudly of the “wind in their stomachs,” and frequently enough regard it as being at once the essence and cause of all their discomforts. The gas that produces all this trouble is usually derived from undigested food, detained in the stomach and undergoing a process of fermentation or of simple putrefactive change. It is thought that sometimes it is formed by the stomach itself, for the flatulence may come on when that organ is quite empty. Many people always suffer from this disorder if a meal happens to be delayed beyond the accustomed hour. Sometimes the flatus is quite tasteless, whilst at others it is attended with both the flavour and odour of rotten eggs. Flatulent dyspepsia occurs far more frequently in women than in men. Nervous and hypochondriacal women, who partake freely of tea, are very liable to suffer from it, especially when there is a general relaxed condition, and want of tone

of the system. Frequently the gas accumulates so quickly in the stomach and intestines, and leads to such an amount of distension of the abdomen, that patients have to loosen their clothes from inability to bear their tightness. In many people flatulence is always produced by the use of any food which is liable to undergo rapid fermentation.

Fortunately, we have many drugs at our command which prove useful in the treatment of this complaint. When it is dependent on indigestion, the rules applicable to the treatment of that condition may be advantageously followed. When not obviously associated with dyspepsia, it may often be cured by the avoidance of vegetable food, and tea and beer. Sugar and starchy foods must be avoided or sparingly eaten; and thin, well-browned toast may be substituted for bread. The meals should be very moderate, the food well masticated, and drinking postponed till the meal is nearly finished, or better still, till an hour or so after its completion. A due regulation of the periods for taking food will often suffice to obviate the flatulence which belongs to emptiness. It should be remembered that tea is especially obnoxious to flatulent people. Half-fed seamstresses, who subsist chiefly on weak tea and bread-and-butter, are frequent sufferers from this complaint.

A very common remedy for flatulence is a dose of sal-volatile—from thirty to forty drops in a little water. It seldom effects a cure, and at the best can be regarded only as a palliative. One of the best remedies with which we are acquainted is oil of cajeput—three drops occasionally on a piece of sugar. We have given it hundreds and hundreds of times, and had every reason to be satisfied with it. It does not prevent the formation of wind, but it brings it off the stomach and eases the chest. Any one suffering from flatulence would do well to try this. Sometimes oil of cloves or oil of carraway is given in the same dose and in a similar manner. Horseradish often proves very useful—from half a tea-spoonful to a tea-spoonful of the compound spirits of horseradish being taken three or four times a day in a little water. Drop doses of pure chloroform taken in a little water often succeed in dispelling the wind. Oxley's Essence of Ginger, an old-fashioned remedy, often does good in flatulence.

Charcoal is of great value in many cases. Sometimes the wind is produced in enormous quantities and with great rapidity, giving rise to distension, eructation, and mental depression, the sufferer complaining only of these symptoms, and not of pain or acidity. This enormous production of gas, irrespective of other symptoms, prevails chiefly among middle-aged women, especially at the change of life. It may be met with during pregnancy or suckling, or less frequently in the victims of consumption. This condition is usually met by the administration of wood charcoal in from five to ten grain doses. When, after a few mouthfuls of food, the wind is formed in a quantity so large that the sufferer is constrained to cease eating, the charcoal should be taken immediately before each meal. When, on the other hand, the patient is not troubled with the wind until half an hour or so after food, the charcoal should be taken soon after the meal. Sometimes profuse formation of wind is accompanied by acidity, and then the charcoal will generally remove both these symptoms. Charcoal may be taken in the form of a powder, but Bragg's Charcoal Biscuits are nicer and are sometimes more efficacious.

The Scotch custom of eating a crust of bread burnt brown is not a bad one. Sometimes the efficacy of the charcoal is enhanced by mixing with it an equal quantity of carbonate of bismuth. Should charcoal or charcoal and bismuth fail to remove these symptoms, the substance known as sulpho-carbolate of soda should be tried. It dissolves readily in water, and may be given in doses of fifteen or twenty grains three or four times a day. We often meet with people, generally women, who suffer from what is ordinarily called "spasms." The patient complains of considerable flatulence and distension, often limited to one part, or at all events most marked at one part of the abdomen, generally on the left side under the ribs. It is accompanied by considerable pain, which is temporarily relieved by the eructation of a little wind, but soon returns, and may last for many hours. This condition is usually relieved by sulpho-carbolate of soda in twenty-grain doses, or, should this fail, some preparation of phosphorus may be tried—say five drops of phosphorated oil on a piece of sugar every four hours.

Sulphurous acid taken in water, in from five to ten drop doses, often prevents flatulence produced by fermentation, and is especially useful when the gas is abundant. Ten or fifteen drops of dilute hydrochloric acid, a quarter of an hour before meals, will often prevent the occurrence of flatulence following food. A tea-spoonful of glycerine in water three times a day will be found useful.

Very frequently nothing succeeds in flatulence like assafoetida. For adults a five-grain compound assafoetida pill may be taken three times a day, or every four hours. In the flatulence of young children unconnected with constipation or diarrhoea, a tea-spoonful every hour of a mixture containing a drachm of the tincture of assafoetida to half a pint of water, will relieve the distension speedily, and is usually taken without any difficulty. When the flatulence is due to constipation or diarrhoea, assafoetida does little good.

In some forms of flatulence occurring in children, the perchloride of mercury mixture proves useful (Pr. 48). One of the best remedies for the flatulence of children is the old-fashioned dill-water. A tea-spoonful may be given occasionally when the wind is troublesome, or two spoonfuls with a drop of cajeput oil may be administered every four hours. When the child's health is bad, and the digestion is imperfect, generally with annoying flatulent distension, three or four pale, clayey, pasty, stinking motions being passed in the day, a tea-spoonful of the above-mentioned perchloride of mercury mixture given every hour, or, what is even better, one of the sugar and grey powders (Pr. 71) every hour or two hours, will usually quickly effect a cure.

Nux vomica is more or less serviceable in flatulence of all kinds. A tea-spoonful of the nux vomica mixture (Pr. 44) may be taken every two hours for twenty-four hours or more.

FLUSHING OF THE FACE.

This may occur as a symptom of dyspepsia, but it is often met with without any derangement of the digestive organs. Many women, from the sudden arrest of menstruation, or depraved health, or nervous depression, suffer from heats and flushes. The flush usually starts from some particular spot, such as the pit of the

stomach, and then spreads all over the body, even the backs of the hands becoming of a bright scarlet colour. The sensation of heat may be so urgent that the patient undoes her clothes or throws off the bed-clothes, and even opens the windows in the coldest weather. These heats last for a variable time, from a few minutes only to an hour or more. They usually come on without any warning and without any attributable cause. We have known cases in which they have occurred fifty or a hundred times in the day. Sometimes there is a sensation of heat without any flushing of the skin. Frequently they are followed by "chills" or by perspiration, which may be very profuse. These symptoms are often associated with coldness of the extremities, the feet and hands being often icy cold. They occur most frequently in women about the time of the change of life, but younger women are occasionally sufferers. We never remember meeting with this condition in men. The best treatment is nitrite of amyl. Eight minims of nitrite of amyl are dissolved in half an ounce of rectified spirit, and of this mixture three drops are to be taken on sugar every hour, or whenever the heats are troublesome. By this method we have relieved or cured dozens of people. Benefit may be experienced immediately, or not till the expiration of some days, or even a week. As the patient grows accustomed to the remedy the dose should be gradually increased. We need hardly say that the mode of treatment is perfectly safe, and that in a somewhat extensive experience we have never known it produce even the slightest inconvenience. We think it right to mention this, as some people seem to imagine that nitrite of amyl is a remedy which should be used only with the greatest caution.

Sometimes the occurrence of these heats and flushes is associated with considerable nervous depression. The patient may be so despondent as to feel as if she would go out of her mind. She may be so irritable as to be unable to fix her attention on anything, and the slightest noise causes the greatest distress. There is often considerable restlessness at night, the sleep being broken by harassing dreams. This condition is often the result of over-work, grief, worry, or too long residence in towns, and want of change of air and scene. When the heats and flushes are the predominant symptoms, nitrite of amyl given as above will nearly always effect a cure; but when mental depression, nervousness, and sleeplessness predominate, bromide of potassium proves even more successful. The best way to give it is in the form of the mixture (Pr. 31), two table-spoonfuls three times a day. Sometimes, however, all medicinal treatment fails to effect a cure, the symptoms recurring again and again, and then the only thing to be done is to get a thorough change of air and scene. Probably the best remedy is to travel on the Continent for from three to six months, but this few people can afford to do.

The flushings of the face, and hot and cold perspirations, are often relieved by nux vomica, particularly when one or two drops of laudanum are added to each dose. This treatment often controls the distressing flatulence associated with this condition, and removes the sensation of heat and weight on the top of the head.

Valerianate of zinc is a useful remedy for many of those numerous, distressing, and changeable symptoms to which we have referred. It will sometimes remove not only the flushings of the face, and the hot and cold perspirations, but also restlessness, nervousness, depression of spirits, sensation of suffocation in the throat,

throbbing of the temples, and fluttering at the heart. It will even succeed when these symptoms are associated with derangement of the womb, piles, dyspepsia, or constipation. It must be admitted, however, that sometimes it fails in the very cases in which we should have expected that it would do good. The dose is five grains three times a day, and it may be taken in the form of pills or dissolved in water as a mixture. Should the valerianate of zinc fail, tincture of valerian taken in water in tea-spoonful doses three or four times a day may be employed with a fair prospect of success.

Oxide of zinc pills (Pr. 66) have been highly recommended in the treatment of these distressing symptoms. One or two should be taken three times a day.

GALL-STONES AND BILIARY COLIC.

Gall-stones are usually formed in the gall-bladder, but occasionally in the substance of the liver. Sometimes they occur singly, and sometimes in considerable numbers. When they are solitary they are usually globular or oval, or pear-shaped. When there are several, they commonly have numerous polished facets, the result of mutual pressure and friction. Sometimes they are found accurately fitted to each other, and then they are said to be articulating. They vary in size from a small seed to a hen's egg. Their weight is inconsiderable; when fresh they are heavier than bile or water, but when dried they readily float. They vary in colour from a pearly-white to a deep black, but most commonly they are of reddish-brown tint. They consist of a substance known as cholesterine, with a certain amount of colouring matter. On cutting them open, they are usually found to have a nucleus or core. In exceptional cases, this nucleus may be some foreign body, such as a dead round-worm, a piece of a needle, or even a plum-stone. The body, or that part of the concretion between the nucleus and the crust, is marked with lines or furrows, consisting of radiating crystals of cholesterine, or it presents concentric rings or laminae, or is formed of an irregular mixture of cholesterine and colouring matter. The outer crust can often be separated from the body like a shell; it consists of concentric layers of different thickness, made up chiefly of cholesterine.

The tendency to gall-stones is rarely manifested before the age of thirty, though in rare instances they have been known to occur in children. Women are more liable to suffer from them than men, probably from their sedentary habits. Excess in eating often predisposes to the formation of these bodies, and so does the habit of taking only one meal in the twenty-four hours, in consequence of which the gall-bladder is not emptied with sufficient frequency.

As long as a gall-stone remains in the gall-bladder, it as a rule does no harm; but should it be forced into the narrow bile-duct, it causes the most exquisite pain, and the patient suffers from what is known as biliary colic. The pain that attends the passage of a gall-stone through the duct is agonising. Perhaps there is no pain to which the body is subject that is more severe. Women who have had families say that the pains of child-birth are nothing in comparison. We can hardly wonder at this when we reflect that through a tube, of which the natural size scarcely exceeds that of a goose-quill, there sometimes passes a stone as big as a walnut.

The attack usually comes on after the principal meal of the day, or after some severe muscular exertion or shaking of the body. Sometimes the patient is forewarned of his approaching trouble by a feeling of sickness, with much flatulence and an unusual disturbance of the nervous system. In many cases he is seized suddenly with violent pain, but more commonly it is moderate in its onset, and gradually increases in severity. The pain usually starts from the pit of the stomach, and spreads upwards perhaps to the shoulders, but never downwards. It is usually of two kinds—a dull, aching pain, which is constant, and an acute, agonising pain, which comes on by fits and starts. The pain is often so excruciating that a strong man rolls on the ground in his agony. Sometimes he bends himself nearly double, changing his position every moment in the vain endeavour to obtain some relief from his sufferings. The pain may be so intense as to cause strong convulsions. At the onset it is relieved by pressure, and the patient keeps his hands applied to the pit of the stomach, or rests perhaps the weight of his body on some hard substance placed beneath his stomach. Subsequently there may be intense tenderness of the abdomen, probably in part due to the repeated straining and retching. The paroxysms if frequent and protracted induce great lassitude and exhaustion, the face being pale, the pulse slow, and the whole body covered with a profuse sweat. With the pain there is generally much nausea and vomiting, and sometimes hiccup, and the matters vomited are usually very sour. The patient is flatulent and dyspeptic, languid and gloomy. Sometimes inflammation arises, and then the pulse becomes frequent, and the skin hot, and thirst and headache are complained of. Most commonly there is jaundice, but not always, for the stone may be angular in shape, and permit the egress of bile. At length, however, the concretion passes into the bowels, the pain suddenly ceases, and all is soon well again. When once a large calculus has forced its way through the duct, this remains permanently dilated, and smaller stones may afterwards be voided without pain or trouble. Some people get rid of scores of gall-stones in this way in the course of their lives. Generally the stones are voided with the stools, and they should always be looked for. It is a great satisfaction to find your enemy, and make sure that you have got rid of him. If you don't see the calculus, you can never be absolutely sure that it has not fallen back into the gall-bladder, instead of getting through the duct. You must remember that in some cases the stone may not be passed for some days after the sudden subsidence of the pain. You will have to exercise a certain amount of care and attention in looking for the gall-stone in the motions. As we have seen, gall-stones when dried readily float on water, but they will not do so in their natural condition. It is not enough, therefore, to mix the fæces with water, and trust to the calculus floating up to the top, for it won't. It is necessary that the whole of each alvine evacuation should be carefully passed through some kind of fine sieve. It may be a disagreeable thing to have to do, but it is a great satisfaction to find the stone, and make sure of it. In one case, a man collected fifty-five small biliary calculi, which he voided within the space of five weeks.

When concretions pass which are small and angular, having several flat surfaces, the trouble is probably not over, and more may be expected. If a single stone come away, large, smooth, and roundish, we may trust that there are none left behind.

Now, as to the treatment of an attack of biliary colic. What are you to do when you are seized with the pain? Take a draught containing twenty-five drops of laudanum, fifteen drops of chloric ether, half a tea-spoonful of sal-volatile, and twenty grains of carbonate of magnesia, in a wine-glassful of water. Should you not have all the ingredients at hand, put in as many as you can. Anything that ordinarily relieves spasm may do good. A stiff glass of hot gin and water is always readily obtainable.

A hot bath should be prepared as quickly as possible, and the patient should stay in it as long as he can bear it, or until he feels some relief. As a rule the pain is so great that he cannot remain quiet for any length of time, and soon wants to come out.

Hot poultices, or fomentations sprinkled with laudanum, or belladonna liniment may then be applied to the abdomen. A mixture of equal parts of belladonna liniment and chloroform liniment applied as a fomentation over the liver, or the seat of pain, under oiled-silk, will often give great relief.

Immediate relief is sometimes afforded by large draughts of hot water, containing two drachms of bicarbonate of soda to the pint. The soda counteracts the distressing symptoms produced by the acidity of the stomach, while the hot water acts like a fomentation to the seat of pain. The first portions of water are commonly rejected almost immediately, but it may be repeated, and after some time it will usually be found that the pain will become less, and the water will be retained. Another advantage is that the water abates the severity of the retching, which is usually most severe and dangerous when there is nothing on which the stomach can react. This plan does not supersede the use of laudanum, and in some cases a few drops may be advantageously added to the bicarbonate of soda solution, if it have been once or twice rejected.

Should these measures fail to afford relief, a hypodermic injection of morphia will have to be given, and it would be as well to send for the doctor. Half a grain of morphia—that is, six minims of a one-in-twelve solution—injected under the skin of the forearm will usually afford relief. This is the full dose, and should not be exceeded. When much laudanum or opium in any form has been administered, rather less morphia should be injected, say four or five minims. The great advantage of the hypodermic injection of morphia is that it acts so promptly. It must not be given to children or young people. When a hypodermic syringe is not at hand, a pill containing a grain of solid opium, or a quarter of a grain of morphia, may be given every two hours till three doses have been retained, or the pain subsides. If the patient is at all drowsy he is not to have any more opium or morphia in any form.

Belladonna is another very excellent remedy, and is indicated when there is any reason for not giving opium. Four pills may be ordered, each containing half a grain of extract of belladonna, and one of these may be given every two hours. A subcutaneous injection containing one-sixtieth of a grain of atropia—the active principle of belladonna—with a quarter of a grain of morphia may be administered, and repeated if necessary every two hours. We should advise that such remedies as these should be given only by a doctor; but a patient is

often placed in circumstances in which it would be impossible to obtain skilled medical assistance, and yet it is felt that something must be done to relieve the pain.

The inhalation of a little ether or chloroform will, even in very severe cases, afford almost immediate relief. We prefer ether to chloroform. About twenty drops should be placed on a piece of lint or on a handkerchief, which should be held some three or four inches from the nose, and the vapour gently inhaled; it may be repeated after a short interval. The object is not to render the patient insensible, or to get him under the influence of the anæsthetic—that should be carefully avoided—but simply to relax the spasm and ease the pain. The patient is not to use the ether or chloroform himself, but some one is to do it for him. Four or five drops of nitrite of amyl inhaled in a similar way will often prove efficacious. When the patient flushes in the face, he is under the influence of the amyl, and requires no more. It often produces a peculiar sensation of pulsation in the head, but never insensibility. At first there will be no occasion to check vomiting if present, but when there is frequent and severe retching attended with pain, it will have to be stopped. The bismuth mixture (Pr. 18), with or without the addition of three minims of dilute hydrocyanic acid to each dose, soda water, or sucking ice will often succeed. Purgatives are of little use in expelling the stone, and simply exhaust the patient.

What means must you take to dissolve or prevent this formation of gall-stones? What are you to do when your attack is over to guard against another? The great thing is to take saline purgatives and alkalies dissolved in large quantities of water. If you can afford it and spare the time, go to Carlsbad, Marienbad, Homburg, or Vichy, and drink the waters there; if you cannot get away you must use the Carlsbad salts at home. They should be dissolved in a large quantity of water—two or three pints—and taken tepid; you will soon be able to determine the dose for yourself. It should be taken in the morning before breakfast, the drinking being prolonged over an hour or more, and if possible combined with out-door exercise. It is very essential to adopt a dietary similar to that in use at Carlsbad. Breakfast, which is taken about an hour after the waters, consists merely of weak tea or coffee, with milk and a little sugar, and small, well-baked rolls, or stale bread. Dinner is taken at one, and consists of soup free from fat or spices, and thickened with barley, rice, or vermicelli; meat, such as beef, mutton, lamb, poultry and game, with boiled fresh vegetables; and a light, simple pudding, or compôte of stewed fruit. A cup of coffee may be taken in the afternoon, or a light supper at eight. The following articles of diet are forbidden: fat, butter, cream, pastry, cheese, pork, goose, sausages, salmon, mackerel, herrings, anchovies, entrées of all kinds, spices, pepper, onions, garlic, dressed salads, cucumber, uncooked fruit, and spirits. Nothing stronger than light claret is to be taken to drink, and even this should be avoided if possible. Smoking is allowed, but in the strictest moderation. The treatment is to be continued for thirty days. This plan can be carried out just as well in England as in Bohemia, although there are of course decided advantages in obtaining change of air and scene.

In addition to these measures it will be necessary to attend to the digestion and general health. Small doses of blue-pill are sometimes useful ; it seems to increase the quantity of bile, and at the same time to render it more healthy, and certainly it improves in a striking manner the general health.

GATHERINGS.—(*See DOMESTIC SURGERY.*)

GIDDINESS.

Giddiness or vertigo, as it is technically called, occurs in two different forms : in one the patient feels giddy, but objects about him remain stationary ; in the other external objects assume various abnormal positions—for example, articles of furniture in the room, or the patterns on the paper, seem to chase each other round the apartment, or in rare cases the vehicles in the street appear upside down, or the pavement undulates or feels elastic. The patient on attempting to walk sways from side to side, and can preserve his balance only by a strong effort of the will. There is a perpetual fear of falling down, and of coming in contact with other people or surrounding objects. In slight cases vertigo occurs only on movement ; in severe ones when at rest also, and even during sleep.

The sufferer from giddiness often experiences other anomalous and distressing sensations. Sometimes he sees only halves of things, or everything may seem double. One woman assured us that she always saw two cabs or two omnibuses in the street instead of one. The images were so distinct that she was often unable to distinguish the real from the imaginary. This was inconvenient, for she sometimes hailed the wrong omnibus by mistake. She said that if she were going up a hill, and a cart were in front of her, she saw a long line of them. This patient was somewhat prone to exaggeration, but we have no doubt that her statements were in the main correct. Sometimes this double vision is a precursor of paralysis. We are told of a sportsman who one day, when out shooting, disputed with his gamekeeper as to the number of dogs they had in the field. He asked him how he came to bring so many as eight with him. The servant assured him that there were but four, and then the gentleman became at once aware of his condition, mounted his horse, and rode home. He had not been long in the house when he was attacked with apoplexy, and died. This, of course, is an extreme case. Some people who are subject to vertigo are also deaf, whilst in others the hearing is abnormally sensitive. With some the noise of passing vehicles assumes the intensity of thunder, whilst with others ordinarily loud sounds appear clear, but soft and distant. Sometimes in addition to the giddiness there is singing in the ears, it may be low like the hissing of a tea-kettle or loud like the working of machinery, or perhaps rumbling like the passing of a distant train. These noises may be always present more or less, but usually they are loudest during an attack of giddiness. Vertigo may be due to brain disease, but in a great number of cases it arises from disorder of the stomach or liver. Sometimes it occurs quite suddenly, the sufferer being at the time apparently in a state of perfect health. Often enough an attack may be distinctly

traced to an imprudent indulgence in some particular article of food. When it comes on at night a heavy dinner or a hasty supper will often account for it. In the case of a gentleman who was suddenly seized with giddiness whilst walking in the street, the attack was attributed, probably correctly, to his having eaten very heartily of sausages and Devonshire cream at breakfast. It would seem that in many cases digestion progresses satisfactorily up to a certain point, when owing to some temporary excitement or worry the process is suspended, the stomach is upset, this causes disorder of the circulation in the brain, and the result is an attack of giddiness. Even when no special exciting cause can be detected the attack is often stomachal in origin. It may happen that the patient feels assured that his digestion and liver are in perfect working order, and yet for all that treatment directed to those organs will effect a cure. Stomach giddiness differs in several important respects from giddiness resulting from brain disease. Thus it is never associated with loss of consciousness, and at times the patient is perfectly free from it. It is increased by excitement, by long fasting, and usually the severe attacks occur when the stomach is empty. A stimulus in the form of wine or brandy affords relief, and so does food taken in moderation. Sometimes, though not always, closing the eyes, or gazing steadily at some fixed object, mitigates the intensity of the sensation or affords temporary relief. In some cases the giddiness is slight but almost constant, but more frequently it comes on in paroxysms lasting from a few minutes to an hour or more.

Another cause of giddiness is over-work. It occurs chiefly in those who, in addition to being over-worked, are not too well blessed with this world's goods. Those who are in comfortable circumstances and well fed may do many things with impunity which soon tell on those who are ill-clothed, badly lodged, and have not enough to eat. This kind of vertigo is common enough in hospital practice, the victims of it being very often poor seamstresses and others in a similar position of life. The attacks are usually of short duration, they occur at intervals of some hours or days, and especially after prolonged exertion, or poorer diet than usual. People in a rather better social position sometimes suffer from this form of vertigo, and it is then usually associated with a want of clearness of intellect, and an incapacity for sustained mental exertion. Sometimes irritability of temper, restlessness, a sense of impending evil, and more rarely sleeplessness are complained of. Sometimes the giddiness is induced by the appearance of objects in motion, and this may occur with such frequency that the patient is practically confined to the house. It is probable that in many of these cases there is a general state of debility or want of vitality, of which the giddiness is only one of the exponent symptoms.

Sometimes swimming in the head depends entirely on disease of the ear. These cases are comparatively rare, but we have met with two or three very striking instances. There is usually an association of vertigo on movement, with ringing in the ears and partial deafness. This combination of symptoms is sometimes known as Ménière's disease, after the French doctor who first described it. Persons in fair average health, and without any stomach or other obvious disorder, usually suffer most.

Giddiness occurring in the aged often arises from the stomach, but is frequently

met with independently of any disturbance of that organ. As years go by the vessels of the brain lose their elasticity, and the circulation becomes irregular, so that there is congestion in one part and deficiency of blood in another.

In persons under fifty years of age, giddiness is not a complaint that need give rise to much anxiety. There is no danger to life—the fear of apoplexy or paralysis is as a rule unfounded. Sudden and violent attacks of vertigo, however unpleasant they may be, are seldom dangerous, and in the vast majority of cases depend on some disorder of the digestive organs. In persons over fifty the occurrence of vertigo for the first time calls for strict investigation. A constant sense of uncertainty in movement, a susceptibility or inclination to giddiness from the motion of passing objects, especially if combined with a cloudiness of intelligence, is not a favourable omen. When a severe attack without obvious cause occurs to a person advanced in life, the greatest care must be taken, the more so if it be associated with vomiting, or constant nausea, tingling of the extremities, or pins and needles in the hands or feet. It may be laid down as a rule that the longer the complaint has existed in any given case, the less likely is it to prove dangerous.

Giddiness occurring in people below the age of forty often yields readily to remedies directed to the liver and stomach. It is a good plan to begin treatment with a blue-pill at bed-time, and a black draught or dose of rhubarb in the morning. If the bowels show any tendency to become constipated, they may be kept in order with Friedrichshall water. For correcting acidity and improving the tone of the stomach, the gentian and soda mixture (Pr. 14) should be taken in two table-spoonful doses three times a day, half an hour before meals. The addition of five minims of tincture of *nux vomica* to each dose often increases its efficacy. Food should be taken in small quantities, and should be well and frequently masticated. Should the teeth be decayed they should be seen to at once, and the skill of the dentist must be resorted to for supplying any that may be wanting. A man often dates his restoration to health from the time he had a set of false teeth. Probably the best thing to drink is Vichy water, with a little brandy in it at meals. Malt liquors are, as a rule, to be avoided. The tub in the morning, regular hours, sleeping on a mattress in a large airy room, and out-door exercise, are great adjuvants to treatment. We need hardly say that freedom from the cares and anxieties of business is very desirable; even should the vertigo prove to be not stomachal in origin, this preparatory treatment is likely to do good, and in the majority of cases it alone will effect a cure. Should anæmia be present, iron (Prs. 2, 3, 6, or 7) is indicated.

In vertigo from mental anxiety or over-work, bromide of potassium (Pr. 31) often does a great deal of good. This remedy is also indicated in the giddiness occurring in women about the period of the change of life. When poor living and scanty food are the accompaniments of over-work, we gain more from measures directed to the improvement of nutrition. Generous living and a moderate allowance of a good full-bodied wine do more good than anything. In addition, Parrish's Chemical Food, ammonia and bark (Pr. 13), or the quinine mixture (Pr. 9), may be employed as adjuncts. In some instances very great benefit is derived from the syrup of hypophosphite of lime (Pr. 55).

When there are threatenings of paralysis, caution must be employed in taking

stimulants, although we should certainly not advocate a lowering mode of treatment. We want to give tone to the system, and improve the general nutrition, and not to increase the debility. For the vertigo of old people nothing does better than cod-liver oil taken in tea-spoonful doses three times a day.

There are other remedies which are of use in special cases. Thus, we have sometimes obtained good results from the administration of tincture of gelsemium in five-drop doses in water, every three hours. Sometimes ten drops will succeed when the smaller dose has failed. In vertigo accompanied by congestion of the face, belladonna (Pr. 39) often does a great deal of good. It is to be given when the giddiness is worse on movement but relieved in the open air. Heavy drooping eyelids, dimness of vision, and flashes of light before the eyes, are indications for its use, as are also a hot head and a sensation of burning in the eyeballs. The internal administration of belladonna may be accompanied by the application of a belladonna plaster over the region of the heart.

For Ménière's disease carefully syringing the ears with tepid water does good. Sometimes the application of a small blister behind the ear is attended with good results. A combination of belladonna and gelsemium may sometimes be given with advantage.

GIN-DRINKER'S LIVER (CIRRHOSIS OF THE LIVER).

The most frequent cause of this complaint is spirit-drinking. When alcohol is introduced into the stomach in the ordinary way, it nearly all passes through the liver. Undiluted spirits are much more injurious than when mixed with water, and produce greater irritation. Alcohol consumed as wine or beer is far less destructive to the liver than when taken in the form of ardent spirits. A hot climate intensifies all the vicious effects of alcohol.

The symptoms of cirrhosis of the liver are in the early stages often obscure, but later they are sufficiently well marked. At first the liver gets slightly enlarged, and the patient suffers from pain in the right side, indigestion, wind, and costive bowels. He is occasionally feverish, his skin is hot and dry, and he has a peculiar unhealthy sallow look, which he probably fails to notice, but which is sufficiently obvious to his friends. The necessity for making a change in his habits is forced upon his attention, and for a week or two he is under the doctor's orders, and not feeling able to drink any more, he consents to follow a restricted diet, and to take a course of purgatives. Soon the most prominent symptoms are relieved, he fancies himself well again, and quickly returns to his old habits. Gradually, however, he notices that he is getting thinner and weaker, and occasionally he has a good deal of pain in the side. He is nervous and out of sorts. He has no longer the pluck he used to have; first his friends notice it, and then he gradually becomes aware of it himself. He finds that he is not "fit for business," and he is afraid to see people. If a tradesman, he no longer displays his old energy. He is anxious about his business, for it is falling off, and things don't work as well as they used to, and yet for the life of him he cannot pull himself together. Things go on like this for months and months, or even for a year or two. The patient has occasional attacks of diarrhoea, his appetite fails, his urine gets thick and scanty, and the emaciation and debility

increase. He tries all kinds of treatment, but never sticks to one for long at a time. He consults every one of any note in London, but derives little if any benefit from their advice. The majority of them express no opinion as to the nature of the complaint, but hint in a guarded way that he should take nothing but light claret. Finally, some one bolder than the rest tells him it is all drink, and that he will get better if he will only become more abstemious. The advice is considered an act of impertinence, and is promptly disregarded, although the patient feels in his heart of hearts that it is right. He would give up the drink if he could, but he can't. His self-reliance is gone, the alcohol has stolen away his will, and he is utterly incapable of giving up the dangerous fascination. He will take an oath to-day that he will never touch another drop of spirit, and will probably break it to-morrow. Sometimes he wishes that some one would lock him up in an asylum, or that by some chance or other he could have six months' imprisonment, but he never feels able to put himself under restraint. After a time the liver gets smaller, and this, instead of being a good sign, is a bad one, for it is contracting. The belly begins to swell, and gradually fills with a dropsical effusion. He now feels that he cannot get about any more, and has to take to his bed. Doctors come to see him, he has the best of advice, but they can do little or nothing for him. He would willingly enough consent to knock off drink now, but it is too late; the mischief is done, the liver is in a state of cirrhosis, and no medicine can restore it to its natural condition. The fluid in the belly gradually increases in quantity, and after some months of suffering the patient dies from exhaustion. Is there any remedy for this horrible complaint? Yes, one, teetotalism—absolute abstinence from alcoholic liquors of all kinds. This remedy must be applied early. If you wait till your liver has undergone serious organic change, it is too late. No half-measures will suffice; you will have to give up drink of all kinds. Do this, and you will recover; go on on your old plan, and you will quickly die a painful and degrading death. If you feel that your will is so weak that you cannot be trusted, get your friends to put you in an institution for dipsomaniacs for a month or two. It would probably save your life. There is never any danger in cutting off drink quite suddenly. For a day or two you will feel terribly depressed, but this will soon pass off. The craving for stimulants may often be allayed by some bitter infusion, say of gentian or cascarilla, containing three or four drops of tincture of *nux vomica* or ten drops of *sal volatile* or tincture of ginger to the dose. The perchloride of iron mixtures (Pr. 1 or 2) often serve this purpose better than anything.

Attention to the diet is also of importance. This ought to consist of such articles as milk, eggs, plainly-cooked white fish, meat, poultry, and game. Rich sweets and greasy dishes, as well as hot spices and indigestible foods of all kinds, are strictly interdicted. Regular exercise in the open air and attention to the bowels are to be enjoined.

GOUT.

The phenomena which constitute gout are, we fear, only too familiar to many of our readers.

In many cases the first attack comes on without any previous warning, but

sometimes it is preceded by some disorder of the stomach, such as diminished appetite, flatulence, heartburn, or nausea. As a rule, the patient who may have gone to bed and to sleep in his usual health, and without any suspicion of the sufferings in store for him, awakes about three in the morning with a severe pain in the foot, usually in the ball of the big toe. He attempts to get out of bed, but finds that he cannot put his foot to the ground, or if he succeeds in so doing, the act is accompanied with very great pain. On examining the affected joint, it is found to be hot, red, swollen, and exquisitely tender. The veins proceeding from the toe are turgid with blood, and the joint is stiff. The pain is so great that the weight of the bed-clothes is insupportable, and the mere vibration of the room causes discomfort. The pain is usually spoken of as being of a most agonising description. It is described as a grinding, crushing, wrenching pain, and is sometimes likened to a red-hot iron being suddenly thrust into the joint. The pain is attended with great restlessness, and the patient in his vain search for relief is perpetually shifting his foot from place to place, and from posture to posture.

There may be no constitutional disturbance, but usually the pain is ushered in by more or less cold shivering, followed by heat of skin, perspiration, thirst, loss of appetite, a white furred tongue, and confined bowels. The urine is small in quantity, high-coloured, and deposits on cooling a pinkish or reddish sediment.

If moderate precautions are taken, and the foot kept up on the bed or couch, the inflammation subsides in the early part of the day, but it usually gets worse towards evening, and for the greater part of the night the patient is kept awake by the pain, which, however, again subsides as morning advances.

In a few days relief is obtained, and the tension and swelling are diminished, as well as the heat and redness. The skin usually peels off in the neighbourhood of the joint, occasionally in flakes of considerable size, the process being attended with troublesome itching. The duration of the joint inflammation varies considerably in different cases, and is much influenced by the diet and mode of treatment adopted. Occasionally it lasts ten days, or even longer, but if care be taken it may usually be got rid of in from four to five days. After the attack is over the patient not uncommonly feels all the better for it, and says it has done him good. He very frequently enjoys greater ease and alacrity in the functions both of body and mind than he had for a long time previously experienced.

The disorder which has thus departed almost inevitably returns. At first it may not recur oftener than once in every three or four years, but after a time the intervals get gradually shorter and shorter, till the attacks become annual, happening about the same time every year, and finally they return several times during the course of the autumn, winter, and spring. As the fits increase in frequency their duration becomes protracted, so that in an advanced state of the disease the patient is, with the exception of a few months in the summer, scarcely ever free from it.

As we have already said, the ball of the great toe is commonly selected as the first seat of the disease, but occasionally this joint escapes altogether. An old injury to a joint, as, for example, a stiff knee resulting from a fall from a horse, will attract gout to the damaged part, and will moreover cause it to linger there

longer than in other localities. It is often said the gout differs from rheumatism in implicating the smaller joints of the body. This is true, if reference be made solely to the earlier attacks, but after a time the larger and smaller joints are indiscriminately affected. In severe cases there may be scarcely a joint which has not been attacked at some time or another. The hips and shoulders are the least liable to be attacked, but even they do not always escape. After the earlier attacks the joints soon recover their former strength and pliancy, but when the disorder has recurred again and again, they are not so readily nor so completely restored to their previous condition, but remain weak and stiff, and sometimes they lose at length their capacity for motion altogether. It is a curious and at the same time a fortunate circumstance, that however active the inflammation may be, it never runs on to the formation of matter. The only exception to this is in cases where there has been a chalky deposit in the joint, and then the matter arises from the irritation caused by the presence of the foreign body, and is not directly owing to the gout.

As we have said, an attack of gout is sometimes ushered in by irritability of the stomach. In many gouty people, however, irritability of the temper is a more common symptom. You often hear a wife say of her gouty husband that she knows he is going to have one of his bad attacks, for "he has been like a bear with a sore head for the last day or two." Palpitation of the heart is experienced by some people on the eve of a gouty seizure, whilst others suffer from a kind of asthma. It is not uncommon to find some derangement of the bowels, and this may take the form either of diarrhœa or constipation.

The amount of fever, or in other words elevation of temperature, which accompanies the actual attack is always in direct proportion to the number of joints affected. It is always secondary, occurring as the result of the inflammation.

In old long-standing cases of gout, "chalk-stones" not unfrequently make their appearance around the joints. This chalk-like matter is deposited at first in a half-fluid state resembling cream or soft mortar, and it then gradually becomes dry and hard. These concretions are not really composed of chalk, but of a substance known as urate of soda. It is often deposited around the knuckles, and it is said that people who are inclined to make the best of a bad job have been known to utilise their affected joints to chalk or score the game upon the table whilst playing cards. These chalky deposits not uncommonly cause such deformity of the hands, that their natural shape is completely lost, and they are for all ordinary purposes of life practically useless. Sometimes the fingers are swollen to such an extent that they look for all the world like a bunch of carrots with their heads forwards, the nails taking the place of the stalks. When these deposits are seen, no doubt can ever exist as to the nature of the complaint from which the patient is suffering. Curiously enough, a little chalk-stone is not uncommonly found on the ear just at the margin. In all doubtful cases of gout it is as well to examine this region, for if this deposit is detected, the nature of the complaint is clear.

There are several varieties of what is called "irregular" gout, and of these the most common is gout in the stomach. The attack usually commences in the ordinary way with inflammation of one of the joints, but the pain—which is never very

intense—quickly and abruptly subsides, its disappearance being accompanied with disturbance of the stomach, usually indicated by sickness, vomiting, and pain or spasm of that organ. There is a very prevalent opinion that if a person be exposed to a chill or catch cold whilst suffering from gout, the disease is “liable to be driven inwards,” and there is no doubt that under these circumstances very disagreeable, or even dangerous, symptoms may arise.

In certain rare cases, apoplexy, epilepsy, and mania have resulted from gout. Neuralgia and sciatica are far more common under these circumstances. Skin eruptions are very common in gouty people, and in many instances the skin and joint affection are suffered from alternately. Gravel and stone are also common; but, possibly as a set-off against this long string of evils, the gouty very rarely suffer from consumption.

There are few diseases which are more distinctly hereditary than gout. Its tendency to run in families must have been noticed by the most casual observer. It is certainly true, as regards this malady, that the sins of the fathers are visited upon the children to the third and fourth generation. It is said that gout frequently skips a generation, and that it more commonly attacks the grandchildren than the children. The explanation of this is in many cases sufficiently simple. Frequently the child of a very gouty father, having his bad example constantly before his eyes, would lead such an abstemious life as to keep the foe at bay; but the grandchildren, being fully under the hereditary influence, but not having the advantage of the “frightful example,” take no special precautions, and very soon fall victims to their ever-watchful enemy.

Gout is almost exclusively a disease of the male sex. This exemption, or rather comparative exemption, is probably dependent more upon certain periodical functional peculiarities of the female sex than upon any essential difference in their mode of life. It has been frequently noticed that women who suffer from gout are robust, full-blooded, and of a masculine turn both of body and mind. Gout, when it does occur in women, very rarely makes its appearance till after the age of forty-five.

Gout is rarely met with in either sex in people under thirty. To this rule there are, however, exceptions, for gout has been known to occur in boys of sixteen whilst at school. There can be but little doubt that in these cases a strongly inherited predisposition must have been fostered by a mode of life not of the most abstemious.

It has never been conclusively shown that what we call temperament exerts any special influence on the development of gout, but still there is a very general opinion that it most commonly attacks men of robust and large bodies, and of full and corpulent habits.

The disposition to gout may be engendered, and when inherited will be infallibly strengthened and developed, by certain habits of life. Excessive indulgence in alcoholic beverages must rank first and foremost amongst the circumstances which are directly under the control of the individual. Distilled spirits, such as gin and whisky and brandy, have less tendency to induce gout than either wine or malt liquors. Among the labouring classes in London, gout is by no means uncommon, whilst in the corresponding class in Edinburgh and Glasgow it very rarely occurs.

There can be but little doubt that the explanation is that amongst the former ale and porter are the popular beverages, whilst the latter confine their attention almost exclusively to whisky. In many of the large cities on the Continent, where the lighter kinds of claret form almost the sole alcoholic beverage, gout is very uncommon.

It is a well-known fact that excessive indulgence in food, more particularly in animal food, is very favourable to the production of gout. It has been noticed that those who live upon an exclusively vegetable diet hardly ever suffer from this disease. Sedentary and luxurious habits are favourable to its development.

Many people seem to imagine that it is a mark of distinction to have had the gout, something to be proud of and to boast about. This absurd notion evidently originated in the fact that it is essentially a disease of the upper and middle classes, and that it is peculiarly incidental to the wealthy and indolent. We sometimes hear of "poor man's gout," but this, in nine cases out of ten, means rheumatism. When we find a case of gout in any of our hospitals, the patient will generally prove to be a servant in a gentleman's family—people who are seldom total abstainers.

Brewers' draymen are not uncommonly attacked, and usually attribute their sufferings to the "smell of the beer." Gout is also fairly common among the "ballasters" on the Thames, but as they habitually consume two or three gallons of porter daily the cause is not very far to seek.

Painters, plumbers, and others whose occupations expose them to the influence of lead and lead-poisoning, often become the subjects of gout. It has even been found that the prolonged medical use of sugar of lead, as in cases of bleeding from the nose or stomach, or other part, may, in people of a gouty habit, occasion an attack.

A fit of gout may be brought on by various circumstances. An unusually severe debauch may act as the exciting cause. Depressing emotions, and over-fatigue, particularly when produced by too long a walk, may be followed by the same result. In fact, anything which depresses the general bodily health favours in a gouty subject the production of an attack.

The influence of climate and season on the production of gout is well marked. The complaint is far less prevalent in hot than in cold or temperate regions. A gouty individual may often escape his accustomed winter attacks by spending the colder months of the year in Egypt or Malta. The increased functional activity of the skin in hot climates is in all probability the cause of this exemption.

An acute attack of gout in one of the joints is probably never fatal, but when the disease becomes chronic it has an undoubted tendency to shorten life. The appearance of gout is always a serious matter, and should never, as some people seem to think, be regarded as a matter for congratulation. The earlier the age at which gout first makes its appearance, the more serious are his future prospects, particularly when the complaint is hereditary. The appearance of chalk-stones, even in the most trivial form, is an unfavourable sign.

Can gout be cured? We believe that if the patient will only take warning by his first attack, and make a thorough alteration in his habits and mode of living, the disease may be entirely eradicated from the system, and will never return. We know of no drug or combination of drugs which, unaided, is capable of effecting this result.

The only real remedy, abstemiousness, is in the patient's own hands, and if he refuses to use it, it is his own look-out.

What should be done in an attack of acute gout? In the first place, the patient must be kept in a warm room, as quiet as possible, and should on no account be allowed to make any attempt to get about. The diet must be of the simplest possible description, but milk, arrowroot, tapioca, sago, biscuits, toast, toast-and-water, and other similar articles may be taken without restriction. The affected member should be wrapped in flannel, and should be kept strictly in the horizontal position, never being allowed to hang down or support its own weight.

When the pain is very severe, contractile collodion, which may be advantageously mixed with a little tincture of iodine, painted over the inflamed joint, will speedily give relief, although at first the pain may be temporarily increased. Care must be taken not to apply too many coats of the collodion, or the contraction produced may be too great, and it may do more harm than good.

Colchicum is undoubtedly the best internal remedy both for acute and chronic gout. A drachm of colchicum wine given in a little water will often remove the severest pain in the course of an hour or two. By some the administration of a drop of colchicum wine every twenty, thirty, or sixty minutes is preferred, but these smaller doses take much longer before they produce the desired effect. When there is much acidity of the stomach, the colchicum may be advantageously given with a little carbonate of potash or other simple alkali. In all cases in which the bowels are confined a free evacuation should be obtained. A compound colocynth pill (Pr. 60), or a seidlitz powder, or the white mixture (Pr. 25), will usually answer admirably. Mercury and its compounds should be given with considerable caution to gouty people, as in them it often produces very unpleasant effects. The hot air or vapour bath may prove useful in promoting the action of the skin.

In chronic as in acute gout, the remedy on which we place the greatest reliance is colchicum. The action of this drug in curing gout is as marked as that of quinine in curing ague. Some people appear to have an unfounded prejudice against the use of colchicum; if judiciously administered it can never by any chance do harm. It must always be borne in mind, however, that colchicum is merely palliative, relieving for a time the patient's sufferings, but in no way protecting him from a recurrence of his attacks. Some people say that colchicum whilst it cures one attack hastens the return of another, but we believe that there is no truth in this statement. In chronic cases twenty drops of colchicum wine may be given in water every four hours until relief is obtained.

In old-standing cases where colchicum has not succeeded so well as might be wished, a tea-spoonful of the ammoniated tincture of guaiacum given three times a day in a little milk may prove useful.

When the pain is distinctly worse at night, or is experienced only at that time, the colchicum wine may be administered in combination with the iodide of potassium mixture (Pr. 32). Iodine liniment painted over and around a joint swollen from gouty inflammation will often do good.

In China, oil of peppermint is used as a local application, and the relief is said to be almost instantaneous.

A cold wet linen compress, constantly applied and frequently renewed, will do much to relieve a painful joint.

The Turkish bath is particularly valuable in chronic gout, but, as might be expected, it is not always equally serviceable. In long-standing cases, where the attacks have occurred so frequently as to distort the joints by deposits, and the patient is, perhaps, liable to repeated relapses, and is scarcely ever free from pain, the efficacy of the bath, though striking, is less apparent than in milder and more tractable forms.

Of late years lithia has been extensively used for the removal of the chalky deposits, particularly when the skin is broken. The urate of soda, of which they are composed, is readily dissolved by carbonate of lithia, and if a solution of this salt of the strength of five grains to the ounce of water be employed, they may in time be removed. The affected joints must be constantly enveloped in lint or rag kept moist with the solution. In many cases this method of treatment has proved very successful, and not only have considerable enlargements been removed, but suppleness and even free movement have been restored to previously stiff and useless joints. The treatment is necessarily somewhat tedious, and many weeks, or even months, may be required to remove large deposits. The local application may be supplemented by the internal administration three times a day of eight grains of carbonate of lithia dissolved in any aerated water, or the citrate of lithia may be given in the same or larger doses.

We must now consider the treatment which should be adopted by gouty patients in the intervals between their attacks. A few general rules will be given, and they will be found more especially applicable to those who suffer from chronic gout.

A good plain solid diet should be adopted, but care should be taken to avoid excessive indulgence in animal food. It is hardly necessary to say that the patient should never eat anything which he knows disagrees with him, or causes unpleasant symptoms of any kind. As a rule, what are called "made dishes," and all rich and highly-spiced food, should be tabooed. Pork and veal, and all salted or potted meats are more or less indigestible, and must be regarded with suspicion. Beef and mutton, white fish, fowl, and game are nearly always admissible, so that the patient is in no danger of starvation.

There should be a due admixture of animal and vegetable food; and potatoes, greens, peas, beans, and the like, may be taken with advantage. The softer kinds of fruit, such as strawberries, grapes, oranges, and baked or stewed apples and pears, will, if taken in moderation, do no harm, but plums and other stone-fruit should, when uncooked, be avoided.

Sugar and sweets of all kinds lead to the production of acidity, and favour the development of gout.

As to beverages, tea, coffee, and cocoa are in most cases admissible. Young people can usually get along very well without stimulants of any kind, and we should strongly advise any person in whom gout makes its appearance at an early age to become a total abstainer. In the case of old people with health broken by disease and long suffering, a certain amount of alcohol is necessary. All malt liquors are to be eschewed. The wines to be most carefully avoided by the gouty

are port, sherry, and madeira. Sherry, however dry and pure, is by no means the innocent beverage, as far as the production of gout is concerned, that some people seem to imagine. The best wine to take is a good sound claret, free from sugar and without acidity.

Probably the best drink for a gouty patient is brandy, taken in strictly limited quantities, and freely diluted with water. Whisky, hollands, or gin, may in some cases be substituted, but the change should be made with a certain amount of caution. The spirit-and-water should be taken solely at meal-times. The quantity consumed in the course of the day will vary in different cases from one to three fluid ounces, the exact amount being dependent to some extent upon the previous habits of the patient.

Exercise should be regularly and habitually taken, and walking may be advantageously combined with riding. Excessive fatigue always does far more harm than good, and should be guarded against.

Early and regular hours are of much importance, as is the avoidance of all severe mental application. The importance of plenty of fresh air in maintaining health and warding off attacks cannot be over-estimated. Removal to a warm, dry climate during the colder months of the year will in many cases enable the patient to escape his autumn and winter attacks.

It is extremely difficult to lay down any general rules for the treatment of the irregular forms of gout, such for instance as gout in the stomach. The personal attendance of a medical man will, in most of those cases, be found necessary. The administration of colchicum wine is usually advisable in the irregular as in the more orthodox forms of gout.

GRAVEL.

A patient is said to suffer from gravel when he passes solid matter with his urine, whether in the form of powder, grit, or sand. The term is not applied to those cases in which the water is clear when recently voided and still warm, but throws down a powdery sediment as it cools, which sediment redissolves on warming the urine before the fire or in any other way that may be convenient. There are several different kinds of gravel, but in the large majority of cases the deposit consists of uric acid, which is thrown down in the form of red or yellow sand. If carefully examined this deposit will be found to consist of little crystals, resembling in shape, size, and colour Cayenne pepper. The urine is, at the same time, bright and of a dark golden or coppery colour, like brown sherry. Sometimes it feels hot and almost scalding as it is being passed. It is more acid than perfectly natural urine, and turns blue litmus paper a bright red colour. Often enough the quantity passed is below the average, and the specific gravity or density will be found to be higher than natural. This deposit must not be confounded with the pale pink sediment so often seen at the bottom of the utensil on a cold winter's morning. That is never deposited until the urine has had time to cool, and is immediately redissolved when the urine is warmed up to about the temperature of the body. True gravel cannot be made to disappear in this way. Moreover, the latter does not render the whole of the urine turbid when shaken, but rolls over at the bottom

when the vessel is slowly tilted so as not to trouble the general transparency of the water. With a little care no difficulty will be experienced in distinguishing true from false gravel.

There is no doubt that a tendency to the formation of gravel is hereditary. This hereditary tendency varies in force or strength in different families. Some people begin to pass gravel at thirty or sooner, others at forty, and again others not till they are sixty. As a rule, the earlier the age at which it makes its appearance, the stronger is the hereditary predisposition, and the more difficult will it be, in all probability, to effect a cure. There is a curious relationship between gravel and gout. Sometimes these two complaints seem to alternate, comparing one generation with another; thus, gout appears in the one, gravel in the second, gout again in the third, and so on. And the same individual may have alternate attacks of gout and gravel, and this is by no means uncommon. The majority of people who suffer from this condition live an indolent and luxurious, if not an intemperate life. Adults are peculiarly obnoxious to it after the age of forty. They are usually in addition troubled with transient twinging pains in their limbs, and often during an "attack of gravel" suffer from pain in the back and a general sense of discomfort. Some people pass gravel daily and habitually, whilst others do so only every few weeks, but then in considerable quantity. These attacks occur at varying intervals, and usually increase in frequency and severity unless treatment is resorted to.

The presence of gravel in the urine is not to be regarded as an indication of kidney disease. In the vast majority of cases it means simply that the liver is inactive. It fails to perform its duty as an excreting organ, and the result is that an extra amount of work is thrown on the kidneys. In the case of people who suffer from gravel it will usually be found that the bowels are sluggish, that the appetite is impaired, and the digestion is performed imperfectly. These may not be very prominent symptoms, especially if the diet be carefully selected, and the patient is able to take plenty of exercise and pass most of his time in the open air, but still they are always present more or less.

It is obvious from what we have said that our treatment should be directed rather to the liver than to the kidneys. A most valuable drug in these cases is blue-pill. But still it must be remembered that gravel is essentially a chronic complaint, and one cannot indulge in blue-pill to an unlimited extent. We have consequently to look round for some drug or combination of drugs that will prove equally efficacious, but will be less likely to act injuriously on the system if continued for a considerable time. We find what we require in certain natural mineral waters, such as the Friedrichshall and Pullna, and of these the former is usually preferred, on the grounds that it does not purge too freely, that it does not gripe, and that it is not very disagreeable to take. The dose of Friedrichshall water is about half a tumblerful, and it should not be taken pure, but diluted with from a third to half of its bulk of hot water. A great advantage is that it may be taken for many weeks without losing its effect. It should be taken in the early morning, say an hour or so before breakfast; and then, after the cup or two of hot tea or coffee accompanying that meal, there is usually a full, free action of the bowels. Some people prefer the Marienbad water, which contains enough free carbonic acid to make

it an agreeable and slightly sparkling draught. Rather more than half a pint is required to produce an easy motion. The waters both of Vichy and Vals have attained a high position in the treatment both of gout and gravel. By many it is maintained that their action on the liver is slight, and that although patients are often better for a time after a visit to Vichy, they are not permanently benefited. There is no occasion to drink the waters at the spa, for the majority of them are imported, and may be obtained without difficulty. The course should extend over a period of from six to nine weeks. It may be said that this is an expensive mode of treatment; but it must be remembered that gout and gravel are essentially the heritage of the rich and well-to-do, and not of the poorer classes. The artificial imitations of the natural waters are of comparatively little value.

In addition to medicinal treatment the diet must be carefully regulated. In the first place, alcohol must be taken very moderately, and the lighter wines are to be preferred. Port, sherry, and champagne are unsuitable, and beer is absolutely forbidden. Probably the best drink for the sufferer from gravel is a light, sound Bordeaux, or a Rhine wine of similar quality. Sugar is strictly tabooed, and fat, butter, cream, and pastry are to be taken, if at all, very sparingly. Abstinence from those articles of diet will greatly lighten the work of the liver, and lessen the unnatural strain thrown on the kidneys. In some kinds of gravel, rhubarb, from the amount of oxalate of lime it contains, is especially injurious.

In many cases great benefit is derived from the simple expedient of taking a tumbler of cold water a couple of hours or so before dinner, and another on retiring to rest. It is found, too, as the result of practical experience, that a long interval should not elapse between meals, and that the period devoted to sleep should not be too prolonged. Many people suffering from gravel take a little bicarbonate or citrate of potash in a tumbler of water every night at bed-time and again on rising in the morning. This is simply a temporary expedient, and seldom does any permanent good. The great thing is to pay strict attention to diet. The following case forcibly illustrates the effects of good living on the production of gravel:—"A Dutch merchant had an ample fortune, and lived in accordance with his means, keeping a good table, and indulging in its pleasures freely. He was at this time tormented with gout and gravel. Unexpectedly he lost all his fortune, through a political crisis, and was obliged to take refuge in England, where he lived more than a year, almost in poverty, amid numerous privations, but his gout completely disappeared. Little by little he succeeded in repairing his affairs; he resumed his old mode of life, and the gravel was not long in reappearing. A second reverse robbed him in a short time of all he had gained; he passed into France almost without resources, and his regimen was consonant to his means; the gravel disappeared. Once again his industry restored him to a life of plenty and ease, and he abandoned himself again to the indulgences of the table, and with them appeared once more his old enemy, the gravel."

HAY FEVER—HAY ASTHMA.

This is a peculiar form of catarrh, or asthma, produced by the inhalation of the pollen of some kinds of plants, and especially grasses. It affects certain persons only, and in them it always comes on at the same time of the year—at the latter end of May, or in June, when the grass is in blossom, or when the vernal haymaking is going on. The disorder happens only at the one particular season, and the persons so attacked may not be particularly subject to catarrh at other times, or from ordinary causes. Usually there is headache, which is often severe, together with suffusion of the eyes, sneezing, irritation of the nose and back of the throat, and a dry, harassing cough. Then, at intervals there may be experienced attacks of asthma, lasting for two or three hours, the shortness of breathing being sometimes so urgent that the patient experiences the most distressing sensations of impending suffocation. First attacks of hay fever are generally milder and less persistent than the subsequent ones, the susceptibility apparently increasing year by year. In the early stages sneezing and running from the eyes and nose are the prominent symptoms, but subsequently the asthmatic element is superadded. If the affection be left to itself the duration is usually from three to five weeks, and even in cases most carefully treated the attack may last for a month. Persons who have once suffered, invariably have a return of it if exposed in ever so slight a degree to the exciting cause. The air wafted from Hampstead to central London will, in the haymaking season, often produce the habitual seizure. So exquisitely sensitive to the action of the pollen of grass are some people that the slightest exposure will induce an attack. A lady who suffered annually from this affection stated that a paroxysm was sometimes brought on by the approach of her children after they had been in a hay-field, and on one occasion this happened when the hay-harvest was over, upon their joining her at tea, after playing in a barn in which the hay of that year had been stored.

It is a curious circumstance that hay fever should be almost exclusively confined to the educated classes, but so it is. As an American writer humorously remarks:—"The complaint is not met with in the *plebs*, the *commune vulgus*, the *oi polloi*, but is patrician and aristocratic, and occurs mainly amongst those high in rank and social position, and eminent for mental and literary attainments. William IV. of England, an English duke, Southey the poet, several learned divines, lawyers, medical men, and their wives, ex-mayors (!), bankers, and ladies of fashion are among the select few on whom it bestows its favours. The great Daniel Webster secluded himself every autumn at Marshfield to get through his season of trial, with what patience he could muster; and the distinguished Henry Ward Beecher annually vacates his pulpit for a season from the same cause; and certainly, if ever a clergyman had a good excuse for so doing it is he. Preaching even such as his would fail in its effects if interrupted at intervals by a succession of sonorous sneezes, paroxysms of cough, and asthmatic utterance, and a persistent aspersion of eyes and nostrils." It would seem probable that the condition of the nervous system engendered by mental training is especially favourable to the development of hay

asthma. Farmers, who are of necessity constantly exposed to the influence of pollen, rarely suffer from it. It is difficult to account for this immunity; by some it has been supposed that it is owing to the absence of the predisposition which mental culture induces, whilst others think that they are rendered insusceptible to the action of grasses by their constant exposure to its influence. However that may be, there is no doubt that an attack of hay asthma is a great trial of faith and patience, religion and philosophy, and enough at times, as some one once said, "to make a man curse his mother and turn Turk," if that be the *ultima thule* of human turpitude. The man who could bear with equanimity the annoyances of hay fever would rival the fortitude of Guatimozin himself, who, when stretched upon live coals by his brutal conquerors, rebuked the complainings of his fellow sufferer by gently reminding him that "he, too, was not upon a bed of roses." The first attack often begins in childhood, and rarely occurs late in life. The complaint appears to be more frequent in men than in women, and there is reason to believe that the susceptibility to this troublesome affection runs in families. It is probably more common in this than in any other country. An analogous disorder prevails in some parts of the United States, where the rose is largely cultivated, and is known as "rose fever" or "rose catarrh." "Peach cold" is an affection of similar nature.

In many people an attack closely resembling that of hay fever is produced by dust in any form. A patient says:—"If in my walks I see men sweeping a street, and clouds of dust arising, I shun it as I would a rattlesnake; and if I see a building in process of demolition, I go half a mile out of the way to avoid it. I always walk on the shady side of the street if there be one, and select a well-watered street if possible, or keep well to windward. I cannot express the agony I have on certain occasions suffered from this cause, and I therefore confine myself within doors as much as possible. Dusts and draughts are my particular aversions. I cannot smell a rose or eat a peach unpeeled—the hairs irritate my fauces—without suffering an attack, and a pinch of snuff would I believe make me sneeze my head off. Nothing that I have ever snuffed up my nostrils has failed to injure me." In conclusion he adds, "I pray for rain with all the fervour of the old Scotch clergyman, without caring whether or not it should eventuate in a deluge."

An attack of hay fever may usually be cut short by removal from the exciting cause. A sojourn at the sea-side will palliate, and, for the time, often cure the complaint; but it is not every sea-side district that gives the hay-fever patient relief. A sea-side town deeply indented in the land is not a good place to choose, for it partakes more or less of the character of a bay. One should rather look out for some place situated on a promontory or peninsula, so that there is very little chance of hay-fields being in the neighbourhood. But wherever a patient may be at the sea-side, if the wind is blowing from the land, and if hay-grass is in flower at the time, he will be liable to be attacked by his enemy. It is therefore a matter of importance in selecting a retreat for the hay season to find some place where the prevailing winds are from the sea. It is also better to choose a spot where the sufferer can be continually near the water, and if possible a place where the shore is backed with high cliffs, because these act as a kind of screen when a land breeze is blowing. There are several places in this country which are recommended as

being suitable for the residence of the hay-asthmatic during the summer months. First and foremost among these is Lundy Island, near Ilfracombe, in the Bristol Channel. Then there are Lizard Point in Cornwall, the point of land near St. Mawes, and the point of land near her Majesty's residence at Osborne. Some parts of the Isle of Man, such for instance, as the district a little beyond Port St. Mary or Port Erin, would prove suitable. On the Welsh coast the district near St. David's Head is recommended. There are also some of the small islands off the west coast of Scotland which would give complete protection from attacks of hay fever. In America the great place of resort is Fire Island. This island is about twenty miles long by three-quarters broad, and is situated on the Atlantic side of Long Island; on one side a bay (the great South Bay) separates it from Long Island, and on the other is the broad Atlantic. Scarcely anything but a coarse, short grass grows there, and this is rarely seen in flower in any quantity.

A cruise in a yacht is almost a specific for hay fever, for it removes the sufferer from the cause of his suffering. Many noblemen and gentlemen of wealth who are afflicted with hay-fever, take to their yachts early every summer, and remain afloat till the hay is all in, and they thus escape the complaint altogether. Unfortunately the majority of people can afford neither the time nor the money to avail themselves of this mode of obtaining relief, but even a day or two's cruise will do good, provided always the vessel keeps well out from shore. In long voyages there is one point which is worth bearing in mind. Cattle and sheep are often taken on board ship, and, of course, require to be fed. In most cases the food consists largely of dried hay. In this way the hay-asthmatic may be thrown in contact with pollen, and have his complaint developed.

For those who cannot get to the sea the next best thing is to go to the centre of a large town, the larger and the more densely populated the better. It is a good plan, too, to keep in-doors as much as possible during the middle of the day. High mountain lands used only for grazing purposes will also be found good for hay-fever patients, although by no means equal to a well-chosen sea-side residence. Some parts of the Highlands of Scotland, as well as some of the mountainous districts in Wales, will be found to answer well.

When one cannot get away from home, the only thing is to trust to medicinal agents. One of these—tobacco—hardly merits that name; but for all that it is of all probably the most trustworthy. There is nothing during a paroxysm of hay asthma that has anything like the effect of smoking tobacco, and although this is especially the case in the later stage of the attack, when the asthmatic element is most developed, still, in the earlier stage, when the sneezing and running from the eyes and nose are prominent symptoms, tobacco-smoking exerts a very marked influence as a sedative. During the hay asthma season—that is, in the majority of cases, from about the 15th of May to the 10th or 12th of July—the sufferer should regularly smoke a cigar the last thing before going to bed, or, better still, when in bed. This night cigar is taken as a preventive. Tobacco will cure the asthmatic spasm when it is fairly on, but it requires a larger dose, and it must be taken in a stronger form. The sedative influence of the cigar will usually ensure a fair night's rest; but the powerful depression of strong shag tobacco is usually necessary to cut short

the spasm when thoroughly established. Even when the night cigar is taken it may be necessary to get up about three or four in the morning and light another, and during the last fortnight in June, this happens with many almost nightly. A hay-asthmatic should never smoke tobacco but for his malady. One soon gets accustomed to its influence, and it then loses its power of relaxing spasm. Distressing as are the sensations of collapse from tobacco-poisoning, they are unspeakable relief when contrasted with the sense of impending suffocation from asthma. A patient, in describing his feelings, says:—"I smoked one pipe, then another; and as my face blanched, and my pulse failed, and the cold sweat stood on my forehead, miserable as were the sensations of collapse they were paradise to the agonies of suffocation. I shall never forget those moments of relief." Many people who have been accustomed to smoke for years are not readily susceptible to the influence of tobacco, and they fail to obtain much benefit from its use unless they employ some device to secure its more potent effect. A good plan is the following:—Fill the mouth with tobacco-smoke, and then instead of blowing it out again at once as in ordinary smoking, retain it in the mouth for some seconds, perhaps a quarter of a minute, then take another mouthful and retain that, and so on. In this way the tobacco is more rapidly absorbed, and a state of depression quickly produced.

In many cases great benefit has been derived from taking ten drops of the tincture of *nux vomica* in half a tumbler of water three times a day.

Another good remedy is from three to five drops of arsenic solution (the liquor arsenicalis of the Pharmacopœia) in a little water three times a day. This is the dose for an adult, and should not be exceeded. It should be taken after meals, and is then less likely to upset the stomach.

Tincture of *lobelia* may be given during the asthmatic paroxysm with a fair chance of success. On any signs of an on-coming fit, ten drops of the simple tincture should be taken in water every ten minutes or a quarter of an hour, till relief is obtained. Sometimes it produces a little sickness or faintness, but this soon passes off.

A few drops of chloroform placed in the palm of the hand and inhaled during the attack will often cut it short. As a matter of precaution some one else should be in the room when this treatment is adopted.

In many cases of hay fever creasote inhalations have proved of service. The best strength is ten drops of creasote to a pint of hot water, the steam being inhaled. Sometimes a camphor inhalation does good. Ten drops of spirits of camphor, and twenty of rectified spirits, are to be added to the pint of hot water.

HEADACHE.

Headache is of necessity of common occurrence, since it is present as a prominent symptom in some part of the progress of most acute and many chronic illnesses. It would seem that the head is more given to aching than any other part of the body; put all the breast pains, stomach pains, and colic pains together, and you do not make such an aggregate of suffering as is furnished by headache. There is no doubt that headache is a more common complaint than it used to be, and the explanation

of this is not far to seek. The most prevalent diseases of the present day are those affecting the nervous system. The strain to which we are all of us more or less subjected through the requirements of modern times renders us especially liable to break down prematurely from over-work and want of rest. Every branch of study is now pushed forward with a vigour unknown to our ancestors, and boys and girls are required to grapple with abstruse questions which a few years ago occupied the attention only of the advanced student or the man of science. Before civilisation had arrived at its present state of perfection the over-wrought brain was confined to philosophers and the laborious scholar in his solitary contemplation of human knowledge. Nervous exhaustion was not the common disease it now is, and physicians were for the most part silent as to the cause of its production. In whatever direction a man now turns, he is sure to find competitors striving for the same prize as himself. In trade, in commerce, in literature, and in art it is ever the same; no man has the field to himself. The busy professional man probably affords the most striking example of over-strained exertion. He must strain every nerve to attain the special object he has in view, and dare not leave it till he has probed it to the minutest detail. Should he quit the field failing to discover some new stratum, he is soon followed by another who digs up the hidden treasure, which gives a name or builds up a future.

Headache often depends not only on mere functional but on organic disease of the brain. Such disease may exist for a long time without giving rise to pain, provided only that its progress be slow. Although there may be paroxysmal exacerbations, a certain degree of constancy characterises this more than any other form of headache. The patient goes to sleep with it; it haunts his dreams, and he wakes up with it. Every movement of the body aggravates it, and the agreeable excitement which will dissipate many headaches often only makes his worse. The pain may be sharp or dull, lancinating or throbbing. It is generally accompanied by giddiness, occasionally by fits of vomiting, sometimes by confusion of mind, and frequently by rumbling noises or murmurs in the ears. There is nothing peculiar in the seat of the pain, but when it is more or less continuous and always referred to one particular spot, there is reason to fear some serious disease.

Plethoric or congestive headache is dependent on an excessive flow of blood to the brain. There is usually a sense of pulsation in the ears, together with giddiness on stooping. This variety affects chiefly robust middle-aged men who are making blood too fast; but it is also met with in plethoric women with menstrual irregularity. Persons who live too freely, take but little exercise, and rise late in the morning, are often subject to it. In many cases it follows the congestion produced by mental emotion or excitement. The flush of the face and neck is a pretty accurate representation of what must be the condition of the vessels of the brain. Perhaps the circumstances most favourable to the production of this form of congestion are when passion and intellectual exertion are combined, as in the case of an orator in the full torrent of invective fury. We find an example of this in the vivid sketch of "Preparing for the House" in the "Diary of a Late Physician," where the stout country squire with a rubicund face is in a condition of great excitement at the prospect of delivering a speech that will at once defeat his

assailants and establish his reputation as a politician. Strong intellectual application may induce sufficient congestion to leave its traces for many hours in those who are either plethoric or have an irritable circulation; and when this is being incessantly repeated, as in the case of over-ambitious students, or in persons under the discharge of some inevitable duty, it may ultimately reduce the intellect considerably below its former level. The counteraction of this congestion is often attempted by means of violent exercise. With a man full-blooded, full-fed, and of active digestion it answers well—the equilibrium of the circulation is maintained, together with the due eliminative action of the kidneys and bowels; but in the case of the pale weakly student, the best part of whose life is in his brain, it seldom succeeds, for no sooner is the congestive headache cured than it is replaced by the headache of exhaustion.

The headache resulting from intoxication might at first sight appear to be a congestive headache, since there can be no question that in that condition the vessels are abnormally full; but the fact is, that the retributive headache comes on only after the debauch is over, and it is probably of a composite character. The disordered function of the brain so wantonly tampered with, and the derangement of the liver and stomach, are probably more or less important factors in its production.

A congestive headache not of the active nature we have just been considering is often met with, and is known as the headache of "brain-fag." It frequently results from long-continued, persevering, over-action of the brain, whether by the enthusiastic incautious student or the over-tasked professional man. It is caused by the want of adequate rest, mental activity never ceasing for a sufficient length of time to allow the brain to return to its normal condition in repose and recreation. This headache is usually of a dull heavy character, and is most commonly situated in the neighbourhood of the forehead. It is often accompanied by a feeling of incapacity, and by that dejection of spirits that can hardly fail to accompany such feeling. But without any excessive intellectual strain, this form of headache often arises from mere continued anxiety, such as may be observed in some member of a family on whom devolves the chief responsibility of its guidance. Attention always on the alert, the necessity for provision against contingencies, the vexation of disappointed plans, the difficulties incident to domestic, as well as every form of government, the necessary employment of incapable, unwilling, or impracticable agents—such a life soon engenders this form of headache.

The true active plethoric headache is unquestionably less frequent now-a-days than it used to be. The exciting lives in business and dissipation, the wear and tear of the nervous system, the railway travelling, the sparseness, refinement, and delicacy of the dietary, sufficiently distinguish the lives of public and professional men from the sleepy squire, the plump pluralist, and the festive alderman of days gone by.

Another variety of headache is known as the nervous headache, and it not unfrequently afflicts an individual at intervals through a long life. It belongs to all classes of society, attacking the rich luxurious lady amid the distractions of society, and the poor hard-worked sempstress in the solitude of her garret. It, like many other nervous affections, is a product of civilisation, and is almost unknown among

savage races. The subjects of this disorder have an instinctive feeling that it is nervous, and can usually distinguish it from other kinds of headache. They recognise its approach, and succumb to it almost without an effort, and then when it is over they rebound as if nothing had happened. The duration varies : with most it continues till after a sound sleep, and in many, or in the same person occasionally, it will prevent sleep for one or two nights. It varies in degree : sometimes it is dull and heavy, admitting the subject of it to pursue the usual avocations of the day, though under discomfort, but more frequently it is so acute as to make any occupation an additional suffering. The seat varies in different persons, and in the same persons at different times, according to the exciting cause. It may occupy the front of the head, one temple, the crown, the back of the head, or one side. It belongs to all temperaments and habits of body, but it occurs most frequently in persons of nervous diathesis, and in those with frames weak by organisation or exhausted by disease and other causes. The original constitution most prone to this form of headache is that in which nervous susceptibility is well marked. Those of lively emotions, delicate sensibility, and easily perturbed mind are frequent sufferers, and it prevails largely amongst those who have the æsthetical and imaginative elements highly developed. It is the frequent accompaniment and curse of great intellectual endowment, and it would appear that the liability to it is most marked when the functional activity of the brain, whether in perception, emotion, or intellect, is disproportionate to the organic vigour of the rest of the body. The condition which, irrespective of original constitution, is most favourable to the production of nervous headache may be described as one of debility. In the studious, this predisposition is the result of the consumption of nervous force in the brain, combined with neglect of the ordinary laws of health ; and the same may be said of those who over-exert themselves in professional work, in diplomacy, commercial speculation, or what not. In the rich and well-to-do there is often loss of tone engendered by late hours, hot rooms, want of exercise, emotional excitement, the increasing torment of jealousy and ambition, and worse than all, the forced effort to appear gay in spite of *ennui*, worry, and disappointment. The operative classes are not exempt from it, for their social surroundings are often of the most unfavourable description, and their frames are weakened by hardship and privation. Often enough it arises from debility, ensuing on loss of blood or its deterioration, on excessive discharges, and on vicious habits and indulgences. The pale anæmic girl, the mother worn out by repeated pregnancies and prolonged suckling, the father blanched from piles, and the son exhausted with vice—all suffer from this headache. Many of the exciting causes clearly show the nervous origin of the affection. In one it is produced by a prolonged fit of study, or a difficult arithmetical calculation, in a second by a dazzling light, a loud and grating noise, or a disagreeable odour, whilst in others it results from an attack of indigestion, or from long abstinence from food. Curiously enough, it may sometimes be induced by certain atmospheric conditions, notably by that which precedes and accompanies thunder, and by that which ushers in a fall of snow. Sometimes it results from apparently the most trivial causes. The case is recorded of a lady who could at any time induce a fit of headache by turning her head suddenly to the right side, and in another instance it was always brought on by lying on the back. Of all

the exciting causes probably fatigue in some form or other is the most common. Too long a walk, sitting up beyond the usual hour for retiring to rest, compulsory mental effort, whether in the course of conversation, or in study or business, the exhaustion following the excitement of a long journey, or of an evening party, may all act as exciting causes, especially if the fatigue and debility are from any cause associated with circumstances producing perturbing or depressing emotions. Excessive muscular exercise will often act in the same way. In delicate women subject to this headache, it often comes on before, and lasts during the whole of each menstrual period, although there may be nothing abnormal or unhealthy in the function.

In addition to the varieties we have described there are many other forms of headache of more or less frequent occurrence. In what is known as "sympathetic" headache, irritation proceeds at a distance from the nervous centre, as in decayed teeth, arrested digestion, or some disorder of the womb. The case is related of a gentleman who had suffered from pain in the right side of his head for three or four months. It was sometimes acute, at others dull, and it had come on without any assignable reason. A great variety of remedial measures had been tried, including blisters, tonics, regulation of diet, change of air and scene, and so on, but without success. As a last resource he had been advised to seek relief at one of the German spas, but, fortunately for him, before setting out he had his teeth examined. They were all in wonderfully fine condition except the wisdom-tooth in the upper jaw on the right side, which was decayed. This was extracted, and from that moment the patient was cured. This is an exceptional case, but it is a remarkable instance of sympathetic headache. A more familiar example is the pain in the head which, with many people, supervenes on taking ice into the stomach. Headache is sometimes produced by the presence of some special poison in the blood. The headache occurring in typhoid fever is probably the most decided instance of this variety; the poison in this case being the poison of the fever. In the same category must be placed the headache of rheumatism, gout, ague, and some other affections.

Megrim, sick-headache, blind-headache, or bilious-headache, as it is called, is of such importance that it merits a separate consideration (*see* MEGRIM).

Speaking of headaches generally, it may be said that in the large majority of cases they are induced by excessive brain-work, combined with a deficiency of bodily exercise, short restless nights, and insufficient sleep. Excessive brain-work does not mean exclusively work of an intellectual kind, as in close application to study or literary composition, or to the business of chambers or the counting-house, but it also includes that strain of the affective or emotional part of our nature which is the result of prolonged mental anxiety, vexation, and disappointment, and is far more rapidly exhaustive of nervous power than any intellectual efforts that are free from such emotional complications. Headaches occur more frequently in persons of adult life than in youth or advanced old age, and a predisposition to them is undoubtedly in many cases hereditary.

Habitual dwellers in town suffer more than residents in the country; women more than men; the nervous and delicate more than the robust, and the middle and upper classes of society more than the lower. All pains in the head especially affect those who neglect the many little attentions and cares that our civilised, and

therefore in some measure artificial, mode of life requires. Among these may be instanced regularity in diet, carefulness in adapting the clothing to the requirements of our variable climate, attention to the action of the bowels, and sufficient exercise in the open air.

We must now speak of the treatment of headache, beginning with that form which is dependent on organic disease of the brain. It might be thought that in these cases we should be powerless to give relief, but such is not always the case, and we can often do a great deal of good. A permanent pain confined to one spot, and believed to be due to serious brain disease is often best met by the application of a blister over the part. Large doses of iodide of potassium taken frequently—say three or four tablespoonfuls of the mixture (Pr. 32) three or four times a day—often succeed admirably. This drug is especially indicated when there is any suspicion of a syphilitic taint, or when the pain is worse at night. It is not uncommon to meet with patients, generally men, who complain of pain in the head, usually throbbing in character, sometimes accompanied by intolerance of light. This pain is worse or perhaps felt only at night, and is so severe that it seems as if it would drive the sufferer mad. It may be felt over the whole head, or may begin at the back of the neck, and pass over the vertex of the brow. The pain is very apt to be increased by alcohol. Iodide of potassium will nearly always effect a cure in a week or two. Should the patient in any case be restless at night it may be necessary to give a dose of bromide of potassium (Pr. 37) with or without chloral, at bed-time, to produce sleep. Should other measures fail, the hypodermic injection of morphia may have to be resorted to for the relief of pain. Many of the remedies used for other kinds of headache are applicable to the form due to organic disease.

In congestive headache, rest is almost essential to successful treatment. An easy thing, it may be said, to recommend, but how difficult to obtain. Even when complete rest is out of the question, partial rest and additional relaxation may be attended with marked benefit. Often enough attention to little matters of detail as regards the habits of the sufferer may give marked relief. In the busy part of the day the thinker or writer may find advantage in standing at a desk instead of sitting down and leaning over a table. The diet should be spare, and beer and spirits should be avoided. Active exercise in the fresh air and habits of early rising should be enforced; and these measures when rigorously carried out afford the best promise of relief. It is important to get the bowels to act well, and for this purpose two-thirds of a tumblerful of Friedrichschall water in a little warm water may be taken once or twice a week, the first thing in the morning. A few doses of Lamplough's Effervescing Pyretic Saline will often be found of service in these cases. In nervous and irritable subjects, who are upset by worry and over-work, bromide of potassium (Pr. 31) is a good remedy.

In many cases of congestive headache nothing succeeds better than aconite. It is indicated when there is a violent compressive pain above the root of the nose, with heaviness and fulness in the forehead as if it would split; when there is a flushed face on lying down, but pale on sitting up; when there is great restlessness; when the tongue is furred, and the whites of the eyes are yellow; when the urine is hot and scanty and high-coloured; when the pulse is full and bounding, and the

skin harsh and dry ; when there is giddiness on rising, with nausea and noises in the ears ; when there is a general soreness or bruised feeling about the whole body ; when there is dislike to food, light, and sound, then aconite may be given with advantage. A drop of the tincture may be taken in a little water every quarter of an hour for the first hour, and then hourly, or Pr. 38 may be used.

When the face is flushed and the arteries of the head throb, when there is a sense of fulness and compression about the forehead, as if the skull would burst, and when the pupils are dilated and the eyes bright and glassy, belladonna is indicated. This form of headache is increased by lying down and is relieved by assuming the upright position, by leaning the head backwards, and by strong pressure of the head with the hands. There is also giddiness and occasionally dulness of sight. The face is usually puffed and red in the puffiness, and the water is scanty and high-coloured. Often enough there is sleeplessness alternating with unpleasant dreams. The tincture of belladonna may be given in the same way as the tincture of aconite (Pr. 39).

Nitro-glycerine, or glonoine, is suitable for the form of headache which in women often follows the sudden cessation of the periods. The symptoms complained of are usually flushing of the face, throbbing of the vessels of the head and neck, quickened pulse, giddiness, a sense of fulness and oppression at the forehead and back of the head, occasional neuralgic twinges about the side of the head and in the face, and stiffness of the neck. Often enough the face and forehead perspire freely, and there may be singing in the ears, and sparks before the eyes. The medicine acts very rapidly, and in suitable cases a cure is effected in from five to twenty minutes. The dose is from half a drop to a drop of a one per cent. solution in spirit, taken in a little water, or Parke, Davis, and Co.'s Nitro-Glycerine Pills may be used.

Nervous headache is by no means an easy complaint to treat. When an attack is threatening, it is a good plan to lie down and observe the strictest seclusion and rest, and when this is done at an early stage it may possibly avert it. Very often, in addition to maintaining the recumbent posture, a glass of good wine or some other form of stimulant may be given with advantage. During the acute stage of a severe nervous headache there is little to be done, and the best thing is to leave the patient alone and quiet in a darkened room. Sometimes ice to the temples does good, but often enough warmth succeeds better. In some cases relief may be obtained by taking a warm bath, and then putting hot water bottles to the feet. If the pulse is good and the face flushed, an emetic of mustard and water will rid the stomach of offensive matters, and may give relief. When sickness is an accompaniment of this headache, we may try and relieve it by a bismuth draught (Pr. 18), to which three drops of dilute hydrocyanic acid may be added. Another good plan is to apply a mustard poultice to the pit of the stomach. Sucking small pieces of ice in some cases gives relief. Soda water and a little brandy or dry champagne sometimes answers well, but often it aggravates the symptoms, and does more harm than good.

Valerianate of zinc in five or six grain doses every two or three hours is highly recommended in nervous headache. In the Gulstonian lectures, delivered before the Royal College of Physicians some twenty years ago, the following opinion was expressed on the subject of the dose :—" If I may venture on such a remark, I should

say that, judging from the prescriptions I have met with, this medicine is usually given in doses far too small. My own knowledge of the larger doses was in the first instance accidental. For a lady suffering from spasm of the larynx, I had prescribed a grain of valerianate of zinc in a powder (she was unable to swallow a pill), to be taken every three hours. Six grains had been directed to be distributed into six powders, but the dispenser had sent six powders, each containing six grains. In the morning I found that the powders had been taken with marvellous benefit, and no distress to the stomach." The valerianate proves most serviceable when there is no sickness, and the pain is confined chiefly to the side of the head.

Oxide of zinc is another remedy that often does good. Two of the pills (Pr. 66) may be taken every two or three hours, or an equivalent dose—five grains—may be taken in powder suspended in a little water or milk.

When the headache is coming on, and the patient is irritable and can get no sleep, four tablespoonfuls of the bromide of potassium mixture (Pr. 31) may be given with advantage. It produces refreshing sleep, soothes the nervous system, dispels the other symptoms, and at the same time lessens the frequency and severity of the headaches.

Large doses of chloride of ammonium—say thirty grains every four hours—sometimes give relief. It is soluble in water, but is very nasty, and should any difficulty be experienced in taking it, the solution may be poured into a cupful of milk, and then tossed off. Black currant lozenges, each containing five grains of chloride of ammonium, are now kept by most chemists and afford an agreeable mode of administering the drug. The only objection is that six would have to be taken at a dose. Fortunately chloride of ammonium when it succeeds acts quickly. Should relief not be obtained in six or eight hours, it would be useless to take more. Sometimes a dose of quinine does good (Pr. 9), and sometimes benefit is derived from taking together a dose of quinine (Pr. 9) and one of bromide of potassium (Pr. 31). Salicine may often be taken with advantage (Pr. 13).

When there is great weakness; when the pain is so great as to be aptly described by the term anguish; when there is tenderness of the scalp; when the face is pale, and when there is also chilliness and coldness of the whole body, indicating marked depression, arsenic should be administered. Two drops of the liquor arsenicalis may be given hourly to the extent of four doses, or Pr. 40 may be employed.

In some cases gelseminum succeeds admirably. The great thing is to give enough and to give it frequently. The dose of the tincture is for an adult from five to ten drops in a little water every three hours (*See* Pr. 41).

The cautious inhalation of a little chloroform in acute nervous headache may control the severity of the paroxysm, and induce sleep; but when there is nausea it is rarely of service, and often provokes vomiting, distressing the patient and increasing the suffering.

In many cases nothing does so much good as a hypodermic injection of morphia. It is especially indicated when the face is pallid and the pulse slow and weak, and the patient is beginning to feel the want of sleep. Even should it not completely relieve the pain, it gives that amount of repose which renders the patient indifferent to all that goes on around him, and in this way the brain gets rest from those

harassing thoughts and miserable speculations which continue to haunt him, and from which there is no other mode of escape. When means are not at hand for the administration of a hypodermic injection, benefit may often be derived from giving a good dose of opium by the stomach. Two five-grain compound soap pills, containing two grains of opium, may be given to an adult with perfect safety. It is necessary that the patient should lie down and remain perfectly quiet, and an effort should be made to get to sleep. Opium will often afford relief when applied externally. A mixture should be made of warm water and laudanum, and then a piece of lint should be soaked in this and folded into a pad, which should be applied to the temples and forehead.

Many people find that nothing so quickly relieves a nervous headache as a cup of strong tea or coffee. The treatment of sympathetic headache depends chiefly on the detection and removal of the cause. In many cases of headache resulting from stomach derangement, *nux vomica* (Pr. 44) is invaluable. When the patient complains of giddiness on first rising from bed; of nausea early in the morning, brought on especially by the sight or smell of food; of a feeling of weight in the headache made worse by stooping or moving, and of pains in the temples or forehead, this drug is indicated. If, in addition, the tongue is furred, and there is a bitter taste in the mouth; if the complexion looks muddy, and the whites of the eyes are yellow; if the bowels are confined, and the water is high-coloured and scanty, *nux vomica* will succeed almost to a certainty. This form of headache is worse in the morning on waking; it is increased by mental work, by being in the open air, or in the sunshine, and by the use of tobacco or alcohol in any form.

A good deal of care and tact will be required for the treatment of headache arising from menstrual disturbance. In delicate young women whose periods are deficient in quantity, *actæa racemosa* often does good, whilst in the case of a robust girl suffering from the effects of cold, damp, or change of climate, *aconite*, *belladonna*, or *glonoine*, will prove more useful. *Pulsatilla* often succeeds in restoring the flow and removing the headache.

The headache of gout must be treated according to the prominent symptoms, but in many cases the administration of *colchicum* does good. *Quinine* (Pr. 9) sometimes succeeds admirably in these cases.

For headache resulting from rheumatism, attention to diet is of primary importance. Milk and vegetables will often agree better than animal food, and a little dry wine should be taken instead of beer or spirits. *Iodide of potassium* (Pr. 32) often proves of service. *Bryony* (Pr. 49) is also of great service in rheumatic headache, especially when the pains are relieved by warmth; if rheumatism has attacked other parts of the body, and indigestion is an old-standing trouble, it is very likely to succeed. *Actæa racemosa* often does good in those forms of headache which would appear to be a connecting link between rheumatism and neuralgia. *Actæa* as a rule succeeds better with women than with men. It is serviceable in that common and distressing headache which affects nervous, hysterical women at the menstrual period, or when the flow is too frequent and too profuse, or at the change of life.

There are other remedies for headache which occasionally prove useful, and

deserve a word of passing notice. For instance, holding the arms above the head will often relieve the severity of that peculiar morning headache with which some persons constantly awake. Again, compression of the temples with a couple of pads and a bandage sometimes affords marked relief. The effect of pressure did not escape the observation of Shakespeare. When Othello, after listening to the insinuations of Iago, tried to conceal his feelings from Desdemona by the plea of headache, she replies :—

“Faith, that’s with watching; ’twill away again:
Let me bind it hard, within this hour
It will be well.” (Act iii., Scene 3.)

And again in *King John*, in the scene between Hubert de Burgh and Arthur, the latter, when petitioning for the preservation of his sight, says :—

“When your head did but ache
I knit my handkerchief about your brows
(The best I had, a princess brought it me)
And I did never ask it you again:
And with my hand at midnight held your head.”
(Act iv., Scene 1.)

Sometimes the application of ice to the head, cold lotions, or eau-de-cologne will do good. A recent writer recommends brushing the hair and “shampooing.” He says :—“Amongst other accessories for the relief of headache, I would mention the value of having the hair sharply and vigorously brushed by a hair-dresser during the coming on of a headache; and the circular brush that is prompted to action by machinery is more soothing in its influence than the ordinary brush when controlled solely by the hand of man. For a neuralgic headache and for rheumatism of the scalp, the circular brushing by machinery is only equalled by the comfort of sponging the head with hot water; and it outvies the sponge inasmuch as the patient has nothing to fear from catching cold after the operation. The so-called “shampooing,” will afford relief in some cases; but then it requires a very nice and delicate adjustment of hot and cold douches; for though the warm douche will sooth the poor, irritated nerves, yet, if the officiating priest of the bath is too sudden and too violent in his outpouring of cold water, he will nullify the good effects of his warm waterfall by giving the nerves a shock for which their strength is barely equal. These details may appear trivial to some readers, but I appeal to a headaching audience, and they will, I know, bear me out in my assertion, that it is one thing to be coaxed and soothed by circular brushes and intelligent splashings of warm and cold water, and it is quite another to have a short-bristled brush rattled over your aching head with a charming disregard to the sensitiveness of the nerves of the scalp, and to the comparative value of bristles or boxwood in smoothing people’s hair and temper. I have sometimes shuddered for my turn to come in a hairdresser’s room, when I have seen the brush handled by a clumsy apprentice, and heard it tap and rattle against the scalp of some confiding customer.” Galvanism occasionally proves useful in headache, and sometimes benefit is derived from freezing the skin of the forehead by means of the ether spray, although the latter mode of treatment, we are inclined to think, is more applicable to true neuralgia.

The preventive treatment of headache consists chiefly in avoiding those conditions which are known to predispose to or excite a paroxysm. Many people who suffer from headache, tremors, and restless nights, derive benefit from giving up tea. Coffee is not equally injurious, and in some forms of headache it undoubtedly often does good. Tobacco, too, is, as a rule, not beneficial when there is a tendency to headache, but in some instances a mild cigar appears to ease or even dispel the pain. When a sufferer from nervous headache awakes in the morning with those unmistakable symptoms that usher in a day of pain, he would do well to forego his accustomed cold bath, for his standard of health is obviously low, and no reaction will follow the application of cold.

HEART—DISEASES OF THE HEART.

There are three great causes of heart disease. Either it is congenital, or it is the result of rheumatic fever, or it is due to degeneration. We remember a great medical teacher used to say—"If you have not heart disease now, and don't get rheumatic fever, you are safe till you are over fifty." Children are sometimes born with malformation of the heart, but their lives are short, and those cases need hardly enter into our consideration. In this country rheumatic fever is the most common cause of heart disease. Thanks to our changeable climate rheumatic fever is a very prevalent complaint, and its great danger is that it may affect the heart. Many a man has suffered from years of misery as the result of an apparently slight attack of rheumatism of which at the time he probably thought little. In children, rheumatic fever is very apt to be overlooked, especially when the joints are but slightly affected, and the whole brunt of the attack falls upon the heart. Sometimes heart disease comes on after scarlet fever, but these cases are exceptional. In athletes, gymnasts, labourers, and those who have heavy weights to lift, heart disease is not uncommonly the result of a severe strain. In these cases the onset is often very sudden, the patient perhaps at the moment suffering from severe pain and shortness of breath, and he may even experience a sensation of something having given way in his chest.

We have, so far, spoken of heart disease as a whole, but it must be remembered that there are many different kinds of heart disease. These varieties are perfectly distinct, but they can be distinguished only by a skilled examination of the chest by a medical man, and it is impossible for us to lay down any rules for their recognition.

Among the general symptoms of heart disease may be enumerated, pain in the chest, palpitation, blueness of the face and lips, difficulty in breathing, cough, dropsy, and an irregular pulse. It must be distinctly understood that it is the combination of these symptoms that would lead us to suspect heart disease; and that the presence of only one or two would mean nothing. Pain in the left side is a symptom from which most of us suffer at some time or other, but it alone is not to be regarded as indicating the existence of heart affection. In the majority of cases it is purely muscular in origin, resulting from general debility and over-exertion. Weak, ill-fed, badly-nourished, sickly women, exhausted by frequent pregnancies and long-continued suckling, often suffer from it terribly, and their general debility often gives rise to palpitation of the heart, but there is no actual disease, and the proof of this is that it is

readily cured by good feeding, freedom from worry and anxiety, out-door exercise, and a moderate allowance of stimulant. In nine cases out of ten, pain in the side means general debility, and not disease of the heart. This is a point of some importance, for it is one on which a great deal of misapprehension exists. Then palpitation alone is never to be regarded as evidence of heart disease, although many people get very much alarmed about it. It usually arises from the stomach and not from the heart. A common cause of palpitation in young men is excessive smoking, and if they will only consent to give up their pipes for a few weeks it gradually disappears, to return perhaps on resuming the tobacco. We know of an instance where a gentleman suffers from severe palpitation for days after indulging in even a single cigar or pipe, and yet he is perfectly free from any heart affection. In women tea often acts in the same way. We quote the following case as an example of the mode in which palpitation often arises. "A friend of mine, a barrister, used to be very anxious about himself, because a fluttering sensation frequently occurred at his heart; an intermission of one or two beats, and then a violent throb when the organ again resumed its play. This is a sensation very familiar to my own consciousness, and probably most persons have occasionally experienced it. However, it happened so often to the gentleman I speak of that it made him very unhappy. He persuaded himself that he had disease of the heart, and that he should some day suddenly drop down dead. But there was no other symptom of cardiac disease, direct or indirect, general or physical. He was accordingly told that the intermission depended upon some fault in his digestive organs; and he was advised to leave off different articles of food and drink in succession, in order to discover whether any one particular thing offended the stomach and gave rise to the symptom. He began by abstaining from tea, of which he had been in the habit of drinking a large quantity; and thereupon the fluttering of the heart ceased. After a while he took to tea again, and then the fluttering returned. He repeated the experiment many times, and always with the same result, till at length his mind was satisfied; and by renouncing tea altogether he got rid of his palpitation and of his apprehensions." This is an instructive case, well worth the attentive study of those who suffer from palpitation, and think they have heart disease. We shall have more to say on this subject presently (*vide* PALPITATION).

Shortness of breath and cough may arise from many diseases other than those of the heart, as, for example, winter cough and asthma. It is only in combination with other symptoms that they are of any value in indicating disease of the heart. Dropsy, as we have seen, is a frequent concomitant of heart disease, but it is also a symptom of Bright's disease and many other affections, and may even arise from pronounced anæmia, or poorness of the blood. It is often said that inability to lie on the left side, combined with palpitation of the heart, is to be regarded as an indication of serious mischief, but this is not strictly true, for patients with neuralgia of that side can rarely endure the posture in question, and there are many other exceptions to this rule.

It might be supposed that the amount of pain and distress experienced in the chest would form some guide to the condition of the heart, but such is not the case, for, singularly enough, the amount of suffering entailed by mere functional

disturbance is, in the majority of cases, infinitely greater than that produced by actual disease. A patient with a serious heart affection that may kill him at any moment often experiences so little trouble from it as to express petulant annoyance at having his chest examined, whilst another individual suffering from nothing but indigestion and flatulence refuses to be persuaded of his freedom from some mortal malady. If you think you have heart disease, it is ten chances to one that you have not. The majority of people who really have some heart affection know nothing about it till they are told by the doctor.

Many persons suffer from habitual feebleness of the heart's action. This condition may occur in conjunction with disease, but usually it is a mere functional disorder of but little significance. The symptoms to which it may give rise are coldness and clamminess of the hands and feet, a little swelling about the ankles and insteps, shortness of breath, frequent inclination to faintness, sensations of languor and *ennui*, low spirits, loss of appetite, disagreeable breath, and confined bowels. This state of affairs often occurs in young women, frequently in association with some disorder of the menstrual function. As regards treatment, such medicines as iron (Prs. 1, 2, 3, 4, 6, and 7), quinine (Prs. 9 and 11), and cod-liver oil should be given. The patient should be made to take a fair amount of exercise in the open air.

Many people suffer from pain in the left side, the chief seat of which appears to correspond to a limited spot a little above and to the left of the nipple. It is apparently situated at some little distance below the surface. Remaining limited to this spot for a variable time, it may eventually extend downwards to the elbows, or even to the tips of the fingers. The pain may be in character shooting or grinding, and the sensation may be merely one of uneasiness, or it may give rise to the greatest anguish. These symptoms are not to be regarded as affording indications of heart disease, although it is to be feared that the more severe forms are allied to that disorder which we have described as *angina pectoris* (*vide* ANGINA PECTORIS). In slight cases relief may be obtained by a course of tonics, by attention to the general health, and by wearing a belladonna plaster over the region of the heart.

The act of bending forwards, especially in the sitting posture, and if accompanied by some effort, as in drawing on a boot, is often followed by a peculiar pain, usually referred to the heart. It is relieved more or less quickly by stretching out the chest wall and pressing on the surface. Once produced it is often readily re-excited, and many people are obliged to exercise the greatest caution, in order to prevent its recurrence. The pain is muscular (*vide* MYALGIA), and is not an indication of heart disease. Wearing a bandage round the chest, or the application of a belladonna plaster over the affected region might prove useful.

Many people worry themselves very unnecessarily on the subject of a fatty heart, for it is a complaint that is rarely detected. Although occasionally met with in young people, the disease is essentially an appanage of middle and advanced life. Women suffer from it much more rarely than men. It occurs in all ranks of society, though, to a certain but undetermined extent, more in the upper and middle classes than among those who earn their daily bread by manual toil. It does not appear that indulgence in the good things of this life especially favours its production.

One sees it in men whose rule for years has been to consume at least their daily bottle of wine, in gross beer-drinkers, and in spirit-drinkers; but it is almost as frequently met with in persons who have led a life not only of soberness, but almost of abstinence. The symptoms to which fatty heart gives rise are by no means characteristic. We would say that the fact of your thinking that you are suffering from this complaint is to be regarded as presumptive evidence that you are not.

HICCUP, OR HICCOUGH.

Hiccup is a complaint—if it may be dignified by the name of complaint—which seldom gives rise to any anxiety, or calls for active treatment. It usually passes off in a few minutes, or in the course of half an hour, even if nothing be done for it. One of the commonest and most convenient modes of arresting it is to close the mouth and hold the nose as long as possible. Some people prefer tossing off a tumbler of water, whilst others run up-stairs as fast as they can. A sudden shock will often stop it more effectually than anything; a friend comes up and gives you an unexpected dig in the ribs or slaps you on the back, and your hiccup is gone. Sometimes in hysterical young women it persists for days, to the great annoyance of everybody. The treatment in such cases should be directed to the hysteria rather than to the hiccup. Occasionally it occurs in the course of acute illnesses such as fevers, and is not to be regarded as a good sign, although, of course, too much importance must not be attached to it. In the case of a corpulent man suffering from typhus fever it continued for eighteen hours out of the twenty-four on several consecutive days.

We may mention a few remedies that might be resorted to in case of need. Obstinate and even dangerous cases of hiccup are reported to have been cured by drinking an infusion of mustard made with a tea-spoonful of mustard steeped in four ounces of boiling water for an hour, and then strained. Camphor has been recommended, and so has a mixture of chloroform and laudanum, but we are unable to say in what doses they are most likely to do good. A hypodermic injection of morphia sometimes succeeds when other measures have failed. Chloral often effects a cure when given in ten-grain doses (Pr. 37), and a few drops of sweet spirits of nitre on sugar have been known to arrest the spasm. Three or four drops of dilute sulphuric acid in water every ten minutes or a quarter of an hour might be tried. Gelseminum (Pr. 41) may sometimes be given with advantage. Musk is a remedy which proves of value, especially in hysterical young women. A useful draught may be made by mixing together a tea-spoonful of fetid spirit of ammonia, a table-spoonful of lime-water, and a table-spoonful of peppermint-water.

For the hiccup of drunkards, reliance may be placed on tincture of *nux vomica* given in five-drop doses every hour for three or four hours, or even longer. Ten-minim doses of tincture of capsicum often succeed admirably in these cases. This treatment not only cures the hiccup, but obviates the morning vomiting, and removes the sinking at the pit of the stomach and the intense craving for stimulants, from which these people so often suffer. The medicine may often be continued with advantage to the general health after the hiccup has been relieved.

HYDROPHOBIA.

Few complaints have attracted greater attention or have been more carefully studied than hydrophobia. It is a disease of considerable antiquity, an unmistakable account of its phenomena being found in the works of Aristotle. It is also mentioned by many of the ancient authors, poets, and historians, among others by Homer, Xenophon, Horace, Ovid, Plutarch, and Pliny.

It is a disease due to the introduction into the system of a special poison existing in the saliva of the affected animals. It occurs most commonly in dogs, but cats, horses, pigs, goats, sheep, wolves, foxes, hyenas, jackals, and horned cattle occasionally suffer from it. Its production in man is nearly always caused by the bite of a mad dog.

It was at one time supposed that the disease originated spontaneously in dogs and other flesh-eating animals, but there are reasons for believing that this view is erroneous. It is often said that in dogs it is produced by certain accidental circumstances—such, for instance, as the intense heat of the “dog days,” severe cold, and want of drinking-water; also by such causes as domestication, training, and the physical deterioration induced by their artificially-acquired modes of life. In reality, however, there is not the slightest evidence in favour of the correctness of this view. It must be admitted that these abnormal conditions of life may predispose dogs to mental and nervous disturbances, and may even favour the production of madness, but they in themselves never suffice to originate the disease. We may feel assured when a dog becomes rabid that it has either been bitten by another mad dog, or has contracted the disease from some wild animal of a kindred species. It is said that in the mountains of Switzerland the dogs are frequently infected by the bite of rabid foxes.

It is a curious circumstance that some dogs appear to have the power of resisting the action of the poison which produces hydrophobia. In the veterinary school at Lyons, a pointer, which had been bitten experimentally no less than seventeen times by dogs suffering from rabies, remained unaffected. Other dogs resist two, three, or even four attempts at inoculation, and are finally infected at a subsequent trial. Whether the bite of a mad dog is followed by infection or not depends, apart from the individual predisposition, upon accidental conditions, especially upon whether the bitten part is protected by hair or other covering, which would wipe off the saliva before the teeth came in contact with the skin.

It is usually supposed that madness in dogs is more common during “dog days” than at any other time of the year. In reality rabies occurs nearly as often in the spring, in the autumn, and even in the winter as it does in summer. Statistics show that January, which is the coldest, and August, which is the hottest month in the year, are the very months which furnish the fewest examples of the disease.

The symptoms of hydrophobia in dogs are well worthy of consideration, as by the early detection of the disease prompt measures can be taken for the isolation or destruction of the animal, and a great danger may be averted. Persons are liable to be bitten by mad dogs under two sets of circumstances: firstly, when a rabid animal escapes from home, and is at large; and secondly, when a dog, not known to

be affected, is caressed by his master or some of the family. It is, consequently, quite as important to be aware of those slight indications which should afford ground for suspicion that the disease is impending as to know the characteristic signs by which it may be recognised when it has fully declared itself. The premonitory symptoms of rabies in a dog consist almost entirely of changes in its demeanour, and although they may be too trifling to be noticed by a casual observer they are fortunately sufficiently striking to arrest the attention of any one who is familiar with the animal's habits and individual peculiarities.

A dog about to become rabid loses its natural liveliness, and mopes about as if preoccupied or apprehensive, and frequently seeks to withdraw into dark corners. A change is noticed in his temper, and he becomes either unusually confiding and friendly, or, on the contrary, extremely irritable, morose, and easily enraged. From the first there is a foreshadowing of that most constant symptom of the disease—depraved appetite. Mad dogs not only devour filth and rubbish of every kind with avidity, but will even eat their own excrement, and that immediately after it has been passed. This tendency usually appears early, and when a dog refuses his accustomed food and swallows ravenously such substances as hair, straw, dung, rags, earth, bits of leather, and the like, his conduct, to say the least of it, is very suspicious. Along with this peculiarity in behaviour it is of equal importance to notice that an affected dog from the first snaps at other dogs without provocation. This snappishness in most dogs is very striking. If a dog previously known to have no such habit snaps indiscriminately at the first dog it meets, it is in all probability not safe.

A dog which is at large may also be recognised as being in a dangerous state by its general demeanour. A healthy dog in its progress along a street or elsewhere shows at every step that its attention is awake to the sights and sounds by which it is surrounded. The rabid dog, on the contrary, goes sullenly and unobservantly forwards, and is not diverted by objects obviously likely to attract its attention. This statement, however, is subject to the important exception already referred to that it is excited both by the sight and sound of an animal of its own species.

These premonitory symptoms may last one or two days or only a few hours. Gradually the animal displays increased restlessness and uneasiness, and if chained up he usually endeavours to break away or to tear his kennel to pieces. If he succeeds in getting loose, he will either wander about in an objectless kind of way, or he will start off running as fast as his legs will carry him, sometimes performing considerable distances in an almost incredibly short space of time. The desertion of his home by a previously faithful dog is a circumstance which should always excite suspicion. The animal frequently returns after a short absence, and then almost invariably exhibits a decided propensity to bite, a propensity manifested to a less degree in good-natured dogs than in those naturally ferocious. It is a well-known fact that rabid animals retain a certain affection for people they know, and with whom they are brought in frequent contact. A dog will at first not bite his master, but rather seeks to avoid his presence. It has been frequently noticed in fox-kennels that a mad dog will attack only the males of his own species and spare the females. Sometimes the animal manifests a decided insensibility

to pain, remaining quiet under blows and treatment which would call forth a vigorous protest from a healthy dog. It is said that a mad dog will seize a red-hot poker, and in some instances they have been known to bite off the end of their own tail. A decided alteration in the sound of the voice is usually detected. The bark entirely loses its ring and acquires a peculiar hoarseness which is readily recognised by the most unobservant. Attention is sometimes drawn to the condition of an animal supposed to be healthy by observing that it tries to scratch the corners of its mouth as if attempting to get rid of the ropy mucus which is freely discharged from it. As the disease progresses the discharge increases, the lower jaw hangs as if paralysed, and the animal has evidently a difficulty in swallowing. With the extremely small quantity of nourishment taken the animal rapidly emaciates, and in a few days from the onset of the illness a very striking alteration is noticed in his general appearance. The flanks fall in, the eyes become dim and sunken, and the general weakness is so great that the animal can scarcely stand. His powers of biting are now very feeble, and he curls himself up as if trying to sleep, and in this manner gradually and tranquilly dies. Death usually ensues on the fifth or sixth day, rarely later, and life is never prolonged beyond the tenth day.

We must especially call attention to the fact that in dogs suffering from hydrophobia no special dread of water is manifested. In exceptional and extremely rare instances only do the animals suffer from spasm of the throat in their attempts to drink. They tolerate the sight of water without any sign of excitement, and will splash about in it and drink freely. There is a case on record of a man who died from hydrophobia arising from a bite on the hand, received whilst endeavouring to rescue a dog from drowning. Rabid dogs seldom display any special aversion to light, air, or the glare of the sun. In many cases, from the first to the last that wild fury which is commonly supposed to belong to the disease is conspicuously absent. In one particular form of canine hydrophobia, known as dumb rabies, the lower jaw is early paralysed, and the peculiar howl is then lost.

The symptoms occurring in other animals suffering from hydrophobia are similar to those described in the case of dogs. When foxes are under the influence of the disease they lose their natural shyness, and follow men and animals, biting them if they get an opportunity. Wolves are more to be feared than foxes, from their greater strength and ferocity. They attack human beings without the slightest hesitation, and generally succeed in inflicting severe wounds about the face, neck, and hands. Cows, horses, sheep, and deer, from their limited powers of biting, seldom succeed in communicating the disease to man.

As the actual inoculation of the system with the saliva of the rabid animal is necessary for the production of the disease, it may readily be imagined that it is not everybody who is attacked by a mad dog that contracts hydrophobia. By some it is said that the disease is produced in only five per cent. of the cases, whilst by others the proportion is placed as high as fifty per cent. It is possible that some people are more susceptible to the disease than others, but the situation and character of the wound in all probability exert a great influence on the result. It is obvious that when the injuries are situated on the hands and face the danger of the supervention

of hydrophobia is much greater than when they have been inflicted on the covered portion of the body or limbs, for in the latter case the clothing protects the wound from the action of the saliva.

The symptoms produced by hydrophobia in man are somewhat different from those we have described as occurring in animals. Let us suppose that a man is bitten on the hand by a mad dog, what happens? At first nothing; the wound behaves, to all appearance, just as it would have behaved if the dog which produced it had not been rabid—that is, it gradually heals up. After an uncertain period, which may vary from three or four weeks to as many months, or even longer, the patient experiences an uneasy sensation in the situation of the bite. The scar tingles, or aches, or feels numb, or it may even become inflamed, and the wound break out afresh. In a few hours or days, during which the patient feels uncomfortable, and “ill all over,” the constitutional symptoms make their appearance. Pain and stiffness are experienced about the head and neck, and then the most characteristic symptom of the disease, inability to swallow fluids, sets in. The patient is thirsty, but is unable to swallow, every attempt bringing on a fit of choking and sobbing of a most distressing character. This continues for a few days, and then the patient gradually dies of exhaustion.

Sir Thomas Watson has given a graphic account of a case of hydrophobia which came under his observation. It is too long to transcribe in full, and we must consequently content ourselves with giving an abstract of the chief features, believing that such a course will be more conducive to a correct appreciation of the nature of the disease than a mere enumeration of the symptoms. The patient was a coachman, whose right hand had been struck ten weeks previously by the teeth of a terrier dog. He was brought to the hospital on a Tuesday. On the preceding Thursday his hand became painful and swollen. On Friday the pain extended into the arm, and became more severe. On the morning of this day he had refrained from taking his usual cold bath on account of some feeling of spasm about his throat. His own remark about this was that “he could not think how he could be so silly.” On Saturday the extent and severity of the pain had still farther increased, and on this and the preceding night he got no sleep. He felt ill and drowsy on the Sunday, and the pain extended to the shoulder. The next day he complained of feeling “ill all over,” and told his medical attendant that he could not take his draughts, because of the spasm in his throat. That gentleman, concealing his own suspicions as to the true nature of the disease, said, “Oh, you don’t like the taste of your physic! drink some water.” But he declared that he had the same difficulty with the water. The next day he came to the hospital, when there was water brought and placed before him in a basin, for the alleged purpose of allowing him to wash his hands. It did not seem to disturb him, nor to excite any particular attention. Water was then offered him to drink, which he took and carried to his mouth, but drew his head from it with a convulsive shudder. Subsequently water was again brought him, which agitated him, and he became exceedingly distressed and unquiet, complaining of the air which blew upon him. In the evening he made an attempt to take some gruel. He sat up, and

after a moment's look of serious terror took half a spoonful of the gruel in a hurried gasping manner, and then said he would not take more at a time lest *the sensation* should come on. He was desired to drink the last portion of the gruel from the basin. He accordingly seized it with hurry, carried it to his mouth with an air of determination, and then a violent choking spasm of the muscles about the throat ensued, and most of the gruel was spilt over his chin. He observed that he had been in too great a hurry about it, or he should have managed it. On the Wednesday, at noon, he was in nearly the same state, but said he was better. In the course of the night some morsels of ice had been given him. With considerable effort he swallowed two or three of these; the third and fourth caused so much spasm, however, that he was obliged to throw them out of his mouth, but so great was his resolution, that he seized them again, and by a strong exertion succeeded in swallowing them. He complained now that his mouth was and had been clammy; and he champed much, and spat out a good deal of tough mucus. At his own request, and (as he said) that he might injure no one, a straight-waistcoat was brought, which he assisted in putting on. He subsequently made an attempt to take some arrowroot, the effort being preceded by hurried inspirations and sobbings precisely resembling those which occur when one gradually wades into deep water. He swallowed small quantities of arrowroot eight or nine times with hurry and difficulty, and with sighs that succeeded each other rapidly. By the evening of that day the disease had not made much further progress. He again sat up and tried to eat some thinnish gruel. While taking the basin into his hand he drew back his head to a distance from it, apparently involuntarily. He took one half-spoonful with effort and distress, then sighed deeply and rapidly, or rather his breathing consisted of a succession of sighs at short intervals; he gave up the basin and sank back on his pillow, still sighing. The next day he was still composed, though more easily irritated, his pulse was 140, and much weaker than before, and his mental powers were failing. He gradually sank, and died in the evening, having repeated the Lord's Prayer an hour previously. During the last hours of his life he had been moaning and tossing from side to side; his bowels were purged; fluid stools ran from him, and distressed him greatly. His feet and legs first became cold, and the coldness extended by degrees up to his chest. He hawked up in the course of the day a considerable quantity of ropy mucus, and much frothy saliva came from his mouth towards the close. The duration of this case was unusually protracted, and on the whole the symptoms were less violent than usual.

It is almost needless to say that there is not the slightest fear of the disease being communicated by a patient to his attendants. In former times it was universally believed that the unfortunate sufferers had both the power and the inclination to impart the disease to others by biting them. Every one feared to be bitten, and fancied that by merely coming in contact with the body, or treading upon the saliva of a diseased person, the malady might be contracted. The nearest relatives fled from the patients, and abandoned them to their fate, as if they were so many wild beasts. Sometimes, however, with the view of shortening their sufferings, as they





A. Femur.
B. Tibia.

C. Fibula.
D. Patella.

said, they put them between two feather beds, and smothered them, or they opened a vein, and let them bleed to death. It is stated, moreover, in a work recently published on the subject, that even in our own day there are districts in Europe (the military frontier of Austria) where the dread of hydrophobia is so great that human beings who are suffering from it, or who are suspected of being so affected, are shot by their neighbours, whilst those who have been bitten by rabid animals not unfrequently commit suicide.

When a person has been bitten by a suspected dog, the animal should on no account be killed, for it may turn out that after all it was not really mad. The beast should be carefully secured so that it can do no further mischief, and then watched. A few days' observation might show that the suspicion as to the nature of the disease was unfounded. Rabies is invariably fatal in the dog under ten days, so that if the animal survive that time the bitten person may feel assured that he is in not the slightest danger, and has no cause for apprehension. By taking this simple precaution, not only may the patient's mind be relieved of a most harassing fear, which might otherwise have tormented him for months and years, but the dog will be afforded an opportunity of clearing his character of a most unjust suspicion. It should always be remembered that the majority of dogs who bite and snap are only vicious and not rabid. When a mad dog bites through the clothes, particularly if they consist in part of woollen material, the poison is very often wiped off from the teeth, and the system is not in reality inoculated. The large majority of those who are bitten by mad dogs escape hydrophobia, in fact, the Registrar-General's reports show that the annual mortality from this disease seldom exceeds twenty-five, and is often as low as eleven. As the greater number of cases occur between the thirtieth and fortieth days, when the latter period is safely passed every hope may be entertained that no harm will arise from the accident. After the expiration of the second month the patient may be considered almost absolutely safe. It is the opinion of many doctors that a patient may readily succeed in frightening himself to death, and that the terror inspired by the bite of a mad dog may prove fatal.

What should be done when a person is bitten by a mad dog? In the case of the arm or leg a pocket-handkerchief or piece of rope should be tied tightly round the limb above the bite. The sufferer should then immediately suck the wound with all his might, or if from its position or his want of presence of mind he is unable to do so, some friend or good-natured bystander should perform that office for him. No danger is incurred in sucking the part, provided there be no wound on the lips or other surface with which the poison comes in contact. As soon as possible the bitten part should be either cauterised or cut out with a knife. The late Mr. Youatt, who, in the course of a long experience, had treated a very large number of persons who had been bitten by dogs undoubtedly rabid, placed the greatest reliance on the application of lunar caustic, which, so far as he knew, had in every case prevented the development of hydrophobia. He had an undoubted right to speak with authority, for he tells us that he had himself been bitten seven times, and that he had operated with the caustic successfully on more than four hundred persons, all bitten by dogs respecting

the nature of whose disease there could be no question. It is absolutely essential that the caustic should be brought in contact with every particle of the exposed surface. When, from the extent or situation of the wound, the nitrate of silver stick cannot be effectually employed, fuming nitric acid may be used. Abercromby was in these cases an enthusiastic advocate for the use of the knife. He advised that a skewer should be cut as nearly as possible into the shape of the dog's tooth, and insert it into the cavity which it had made. He then by a bold sweep cut out the skewer and the whole of the surrounding tissue in which it was contained, taking the greatest care that every portion with which the tooth had come in contact was thoroughly removed. Many people nowadays would entertain a very decided objection to such energetic treatment, even although all pain might be avoided by the performance of the operation under chloroform. In the absence of a skilled surgeon the application of a red-hot poker or Italian iron is to be preferred. If freely applied it is almost certain to confer absolute immunity. The pain of the application is probably very much less than is usually supposed. Another plan is to cover the part with gunpowder and then explode it.

We must now consider the mode of treatment to be adopted when the disease has fully declared itself. Most medical writers on this subject are sufficiently explicit, for they affirm their utter unbelief in any method of treatment. "No specific method of treatment has been shown to have the slightest influence in checking or modifying this disease from which, in all probability, no one ever recovered." "There is no well-authenticated case on record in which a hydrophobic person has recovered." "The physician that cures is Death." Such are the opinions of some of our most eminent physicians and writers on medicine. We must admit, however, that we are not prepared to receive their verdict as final. If we were suffering from hydrophobia we should by no means be prepared to lie down and await the bitter end. Cases of recovery have been recently recorded, and as long as there is life there is hope.

We believe that sufficient evidence has been adduced in favour of our common box (*Buxus sempervirens*) as a remedy for hydrophobia to justify its employment with a certain amount of confidence. It is, moreover, the active ingredient in many of the secret remedies which have obtained a reputation for the cure of this disease.

The Groombridge recipe, which was for several generations in the possession of a family living in the neighbourhood of Uxbridge, was some three or four years ago purchased at the instigation of a medical man who had had many opportunities of witnessing its beneficial effects, and had published an account of several successful cases which had occurred under his immediate observation. It was found to consist of the terminal branches and leaves of box, of fetid hellebore, primrose roots, gascoigne powder (a mixture of crabs' claws, hartshorn shavings, and amber), jalap, and carbonate of iron. The primrose roots were not considered essential, and had been omitted for some years.

The Birling remedy, which in popular estimation has obtained a reputation as great, or even greater, than the Groombridge, is said to consist of box, staggerwort, primrose roots, bears' foot, powder of white gashen, jalap, and steel.

The mass of evidence in favour of the beneficial effects of these remedies, in

cases of undoubted hydrophobia, is so great that it can hardly be attributed to the influence of imagination, and we entertain but little doubt that the active ingredient in both prescriptions is the box.

Many of the older writers on medicine and drugs appear to have been acquainted with the properties of this plant. Thus old John Parkinson, in his "Theatre of Plantes," published in 1640, says:—

"One medicine that I learned of a friend who had tried it effectual, I will here set down unto you to cure the biting of a mad dogge, is to take the leaves and rootes of boxe, and penny-royall, of each a like quantity, shred them small and put them into hot broth and let it be so taken three days together, and apply the herbe, &c., to the bitten place with sope and hogges' suet melted together."

In a curious work on the diseases of dogs, published early in the present century by Delabere Blaine, a veterinary surgeon, a very interesting account is given of his discovery of the composition of a remedy for hydrophobia, and of the results obtained by its employment in a large number of cases. It appears that the author had for some years known that there lived near Watford a cottager of the name of Webb, who dispensed what is commonly called a drink, as a preventive of hydrophobia. From the number of testimonials received relative to its efficacy, there were reasons to suppose that it really possessed some preventive properties. In the year 1807, rabies proved very prevalent, and the public curiosity became much excited on the subject. Mr. Blaine had his interest in the question greatly enhanced by "having been bitten by a dog unquestionably rabid." He accordingly went to Watford, and, as he says, prosecuted his inquiries with such success that from one of the two brothers who had dispensed it he gained the original recipe, which he took the precaution of having verified on oath before a magistrate. It was found to consist largely of box. The method of preparation adopted by Mr. Blaine is as follows:—Take of fresh leaves of the tree box, two ounces; of fresh leaves of rue, two ounces; of sage, half an ounce. Chop these finely, and, after boiling them in a pint of water to half a pint, strain and press out the liquor. Beat them in a mortar, or otherwise bruise them thoroughly, and boil them again in a pint of milk to half a pint, when press out as before. After this mix both liquors, which will then form enough for three doses, one of which is to be taken every morning fasting.

Mr. Blaine, in the course of a long and extensive practice, gave this remedy to nearly three hundred living beings, including men, women, and children, horses, hogs, sheep, and dogs. In almost every case he was enabled to trace the history of the danger to the bite of some rabid animal. Although he was unable to regard box as an absolute specific for hydrophobia, the number of cases in which it failed in his hands was remarkably small.

We think that this combination of testimony should induce us to give box a trial in cases of hydrophobia, more especially as we have practically no other drug on which we can rely. We might either follow Mr. Blaine's directions as to its mode of administration, or, as we think preferably, omit the rue and sage, and give the box alone. The alkaloid or active principle is known as buxine, and is readily obtainable, but we know of no case in which it has been given in hydrophobia, although it is very probable that benefit might ensue from its administration.

A case of hydrophobia has been published in which recovery was attributed to hypodermic injections of morphia frequently repeated.

Of late years the use of the vapour bath has been strongly recommended, not only as a preventive of hydrophobia, but as a means of curing the disease when fully developed. It is not at all improbable that it may be instrumental in eliminating a virus which lurks so long in the system. The bath is recommended to be taken, *à la Russe*, on several successive days, at a temperature of from 57° to 63° . Benefit might possibly be derived from the use of the Turkish bath.

In addition to the specific treatment, we should try to soothe and comfort the unfortunate patient by every means in our power, and should be especially careful to prevent all noises, draughts, and other sources of excitement which are so liable to excite the painful spasm of the throat. It has been suggested, and apparently with good reason, that large fluid injections might with advantage be administered by the bowel. By checking the agonising thirst, they would in all probability greatly lessen the sufferings of the patient.

HYPOCHONDRIASIS.

Hypochondriasis may be said to consist essentially of an exaggerated egotism. Its principal feature is mental depression occurring without adequate cause, and taking the shape of a conviction in the patient's mind that he is the victim of some serious bodily disease. It is a complaint that has been recognised from the earliest times, and has always been known as hypochondriasis or the hypochondriac disorder, and sometimes as the "spleen." It might aptly be described by the term "misery." It is not pain; bodily pain is not misery, for you often see patients cheerful and even jocose, though daily racked with pains which might almost bring tears into your eyes to witness. Misery is worse than pain; it is a terrible infliction, as those who have experienced it know well.

In this case there is no perversion of the understanding such as frees the insane from the responsibility of moral agency. Indeed, the average intellectual capacity in hypochondriacs is not below but rather above the general standard. Without any sufficient reason for such conduct, and without any signs of intellectual impairment, the patient concentrates his attention on some particular organ of the body and imagines that it is seriously diseased. He is constantly tormenting himself—and others too, for the matter of that—by dwelling upon his miserable condition, and suffers from the incessant dread of the existence of some serious malady, with perhaps a fear of impending death or insanity. He may fulfil his ordinary duties creditably, but, as a rule, is preoccupied with his own condition, to the exclusion of all other interests and affections, and is ever writhing under the petty despotism of an imaginary evil. Many a hypochondriac might exclaim with Hamlet:—"I have of late (but wherefore I know not) lost all my mirth, foregone all custom of exercises; and, indeed, it goes so heavily with my disposition, that this goodly frame, the earth, seems to me a sterile promontory; this most excellent canopy, the air, look you—this brave o'erhanging firmament, this majestic roof fretted with golden fire—why, it appears no other thing to me than a foul and pestilent congregation of vapours."

Hypochondriacs generally present a healthy appearance, and sleep and perform

their ordinary functions well. They go "the round of the doctors," if they can afford it, and are always changing their medical attendant, being particularly anxious to try any new drug that may for the time be fashionable. They take a strange delight in talking about their ailments, and are very fond of using scientific terms without, however, always quite understanding what they mean by them. A curious feature is that although they do their best to nurse their malady, they always appear to be most anxious to get rid of it, and have an unlimited faith in medicines, notwithstanding repeated failures in treatment. Perhaps the most vivid picture extant of a hypochondriac is contained in the autobiography entitled "Grace abounding unto the Chief of Sinners," being the history of the feelings of "God's poor servant, John Bunyan," as he styles himself.

The precise symptoms complained of vary much, and they are liable to change from time to time. Often enough there is a great but indescribable sensation of uneasiness in the chest, or there is a burning pain at the pit of the stomach. A very common delusion is that there is consumption or fatal heart disease, and a little indigestion and consequent palpitation may serve to keep up this idea. In the case of persons whose family is strongly tainted with insanity these delusions may assume a far more serious character, and the patient may believe, for instance, that his stomach is full of tadpoles, or that a serpent is writhing about in his entrails. The judgment may even become affected to such a degree that the patient entertains most preposterous ideas, as that he is made of glass, and is in constant danger of being broken, or that he is being magnetised, or that people are conspiring to poison him. The wife of a tradesman believed that she had become solid, so that there was no room for any food, which, nevertheless, she continued to take. An idle country gentleman was convinced that some stones that had been thrown in his face weeks before had gone down his stomach, and could be heard rattling about in his inside. These can hardly be regarded as simple cases of hypochondriasis, and many of these people ultimately become insane.

Hypochondriasis is pre-eminently a disease of adult and middle life. It is hardly ever seen in young people, and rarely makes its first appearance after the age of fifty. It is confined almost exclusively to men, and in women is for the most part replaced by hysteria. Beyond all other circumstances that favour its occurrence is the existence of a strong hereditary taint of insanity. No station in life gives immunity from hypochondriasis, but it is most frequently met with in those who, having retired from business, find the time hang heavily on their hands for the want of some active employment. So also those who from their social position have not been brought up to any occupation suffer greatly; those accustomed to sedentary pursuits, who neglect to take sufficient exercise; and those again who over-work themselves mentally, or who suffer from prolonged anxiety or strain. Reading men at the Universities are often tormented with great depression of spirits; often the conscience is over-sensitive, and the importance of becoming distinguished is exaggerated. Disappointment, loss of wealth, loss of husband, wife, children, friends, of health, character, or social position, are often assigned as causes of hypochondriasis, and in many cases the complaint appears to have originated in the moral collapse consequent on an over-exhausting labour, or on the sudden revelation to the

mind of an idle man that his time has been wasted, and that he is a mere burden on the face of the earth. The intellect of a hypochondriac is usually of a superior order, thus Shakespeare makes Hamlet, who may be regarded as a good type of a hypochondriac, a courtier, soldier, and scholar, "the observed of all observers."

A hypochondriac should be encouraged to engage in some active work. Probably the best thing that could happen to him would be to fall in love with some one—besides himself, that is. The great thing is to have an object in life, something to work at, something you can throw your whole energy into, heart and soul. Any one who has a tendency to be hypochondriacal should not be allowed to read medical books of any kind. If once he gets into the hands of a designing quack, there is no end to the mischief that may be done. Those little pamphlets that are thrust into your hands in the street should be systematically rejected. The tale they tell is so plausible that he must be a strong-minded man who can read them with impunity. The best thing, and the safest course, is to have nothing to do with them. Then there is another thing; if a man is hypochondriacal it is of no use trying to laugh him out of it, for you will not succeed. What he wants is help and encouragement, and not "chaff." When the appetite is poor it is important to improve it by quinine (Pr. 9), gentian and soda (Pr. 14), infusion of calumba or quassia, or something of the kind, taken, of course, before meals. When there is indigestion, with constipation and sluggishness of the liver, nux vomica is the best remedy; from five to ten drops of the tincture may be given in half a tumbler of cold water three times a day. Flatulence is often complained of, and three drops of cajeput oil taken on a piece of sugar occasionally will move the wind better than anything. When there is anæmia (*see* ANÆMIA) it will have to be removed by iron, which, if preferred, may be taken in the form of one of the natural mineral waters. When there is failure of strength, cod-liver oil is useful. When it cannot be borne, cream, butter, or some other form of fat, will often agree better for a time. Pancreatic emulsion is sometimes taken with benefit. Sea-bathing proves especially beneficial, and when it cannot be obtained it will be found a good plan to put a handful or two of sea-salt into the bath in the morning. When constipation is the chief trouble it should be remedied by a plentiful supply of vegetables and fresh fruit, rather than by medicines. It is very essential to obtain natural, quiet sleep, to procure which the bedroom should be fairly large and well-ventilated, and the bed should be free from drapery. There must be sufficient, but not too much, clothing. If there be restlessness, it may be relieved by a tepid bath the last thing before going to bed, or perhaps by briskly rubbing the skin all over with a rough towel. Rest is important, but it is seldom necessary to take more than nine hours' sleep out of the twenty-four. The hair should be kept short, and the teeth should be well cleaned night and morning. Dumb-bells are useful, and the best authorities recommend that their weight should be in proportion to that of the individual using them, as pounds to stones. Thus a man of ten stone should select instruments each weighing five pounds. Their use gives flexibility and tone to the muscles, and promotes general activity. Should club exercise be preferred, wooden bats are to be selected, about two feet in length, and each weighing from three to nine pounds, according to the strength of the individual.

HYSTERIA—HYSTERICIS.

A fit of hysterics may occur in a great variety of forms, but the following may be regarded as the description of a bad attack. The patient has been "put out," or "upset" about something. She begins talking vehemently and unreasonably, and becomes greatly agitated. She laughs or cries, or perhaps exhibits a combination of both. She is probably more or less aware of her condition, and of the notice her conduct is attracting, and she may, perhaps, apologise for or lament her weakness. Suddenly she loses all self-restraint, and seems entirely to abandon herself to the intensity of her feelings. She gives a cry or a scream, and falls down, throwing her arms about in a disorderly manner. She makes a great noise, utters incoherent sentences, sobs violently and repeatedly, and complains of her throat, her stomach, or breath. After a time she seems faint, or exhausted, or "worn out," and then gradually "comes to herself" again. These paroxysms vary greatly in different cases, not only in their severity, and the symptoms they present, but also in their duration. Sometimes it is "all over" in a minute or two, and the patient gets "all right" again, but more commonly this condition continues more or less for an hour or two, or, perhaps, the whole afternoon. After the paroxysm the patient commonly voids a large quantity of pale limpid urine, looking almost like water, and this is sometimes discharged during the fit.

At first sight this may appear somewhat like the description of an epileptic fit, but in reality very little difficulty is experienced in distinguishing between these two conditions. We have already pointed out the means of making the diagnosis (*see* EPILEPSY). It will be seen that in hysteria the onset of the attack is less sudden than in a real fit; the patient gives some kind of warning, and if you have had any experience of such matters, you will know pretty well what is going to happen. A young lady in hysterics takes good care not to fall unless there is some one by to catch her, or at all events to condole with her after she has fallen, and she is, moreover, especially careful not to fall in an ungraceful attitude, or to damage her clothes in falling. Of course there are exceptions to this rule, for some people go into hysterics regardless of expense. It will be noticed that an attack seldom comes on at night, or when the patient is alone. Then, in hysteria, unconsciousness is seldom complete; you may think the patient is quite insensible, but if you are rash enough to make any uncomplimentary remark, you will find that appearances are deceptive. In an hysterical fit there is never that frightful distortion of the countenance that one meets with in epilepsy. The pupils are quite natural, and are never dilated. The eyelids may quiver, or the eyeballs may be turned upwards, but there is no squinting, and the eyes never remain wide open with a ghastly stare. It is obvious that the patient can see, for the eyes are often directed towards some one standing near, and then rolled up again under the eyelids. The tongue is not bitten, although there may be a great deal of spluttering, and foaming at the mouth. The attack is often followed by exhaustion, but never by stupor.

When the fit is more severe than we have described, it is, probably, not a

case of true hysteria, but a combination of hysteria and epilepsy. These mixed cases are not common, but they are occasionally met with. In the majority of instances the attack is less severe than we have described. Although these fits constitute the most characteristic feature of hysteria, they are by no means essential to its existence. Many people are distinctly hysterical, but never have a fit of hysterics. We often meet with young women who, from their hysterical tendencies, are a source of constant anxiety to their friends, but who, nevertheless, never have any definite outbreak.

For the better understanding of that condition which we call hysteria, it will be convenient to consider in detail the circumstances that favour its production. It occurs almost exclusively in the female sex, but still we meet with it every now and then both in men and boys. Thus the case is recorded of a young doctor who was distinctly hysterical. He was exceedingly attentive to his own sensations, and fancied that he laboured under a number of diseases that had no existence but in his own imagination; he showed great uneasiness and infirmity of purpose; was what is called "very nervous," and had occasional outbursts of choking tears and laughter, exactly resembling those so frequently met with in the other sex. In women hysteria generally makes its appearance about the age of sixteen, or from that to twenty. When once established it may last for years—in fact, for a life-time. When it occurs in men, it generally begins later—about the age of forty. In them it is usually the result of over-work or excessive worry and anxiety, and that is about the age at which these begin to tell. There is often considerable deterioration of health, an impaired nutrition, and a feeble circulation, with exhausted brain. Hysteria occurs in all conditions of life, but it is more frequently met with in the unmarried than in the married, although it is by no means confined to the former. It was at one time thought that this preponderance of hysteria in single women showed that it was in some way connected with the womb, but this idea is now pretty well exploded. Its more frequent occurrence in single women is probably rather the result of their social surroundings. A woman, if not married, has, as a rule, very little to do—at all events, in the middle and upper classes of society. She has no housekeeping to attend to, no children to look after, nothing, in fact, to occupy her mind and rouse her out of herself, and this condition is pre-eminently favourable to the development of hysteria. On the other hand, a wife with a family has a good deal to occupy her attention, in fact, she is more likely to be over-worked than not; she has to think of other people besides herself, and an attack of hysteria finds no place in the routine of her daily duties. An active employment and hysteria seem almost to be antagonistic. Many women who are hysterical exhibit some disturbance of the menstrual function, but then, on the other hand, many women are irregular in this respect without exhibiting any tendency to hysteria, so that these two conditions obviously do not of necessity stand in the relation of cause and effect. There is no evidence to show that hysteria is hereditary, and this is no more than we should expect considering that it occurs with the greatest frequency in the unmarried. The determining cause of an outburst of hysterics is usually some mental or moral disturbance, often enough some trivial circumstance, which, taking the individual by surprise, overcomes her power of self-restraint.

We now pass on to the consideration of other symptoms which are usually present in cases of hysteria. There is often a perverted mental condition, and a marked inability or indisposition to exert the will. The patient believes that she cannot do certain things, and so confident is she in the correctness of her belief that practically she cannot do them. Perhaps, for example, she takes it into her head that she has lost all power over her legs. She asserts this strongly, and believes it so firmly that she fails to make the requisite effort to move them, and the result is that she is to all intents and purposes paralysed. But often, under the influence of some unexpected idea or emotion, or sensation, the effort is made, and the very thing is done which a moment before was believed to be impossible. "A patient may be carried into the room, and may fall when left for a moment to herself; tell her to walk, and a wooden doll seems as capable of movement; but, under the stimulus of a wish that what she is saying should not be overheard, she walks to the open door and closes it. Certain ideas seem rampant in her mind; she cries about them, and gesticulates in the wildest manner; tell her to be silent, to keep them to herself, or to control her feelings, and you find them exaggerated, and she affirms that 'all the world shall hear' what she has to say; but a gentle tap at the door, that may come from the hand of some one from whom she wishes to conceal her state, is sufficient in a moment to hush this stormy talk, to compose her face, to dry her eyes, and make her speak and smile with placid composure. Sometimes she speaks in a whisper only, and if asked to 'exert herself' or 'make an effort,' so that some particular friend who is a little deaf may hear what she has to say, the only effect is that the whisper becomes quite inaudible—that she makes less sound than ever, and often none at all. She moves her lips, but not even the ghost of a sound is heard to pass them; and yet this self-same person may, when no attention is directed to the voice, speak loudly enough to be heard and understood in the adjoining room. The fact seems to be that the will can be called into exercise only by some one dominant idea or emotion, and that it is this which determines the varying phases of the mental state." So says one of our leading authorities on this subject. This curious condition may, perhaps, be better realised by the consideration of a case related by another writer on nervous diseases. "A young lady," he says, "came under my charge for what was supposed to be a disease of the spinal cord. She had taken to her bed suddenly, soon after striking her back rather gently against the edge of a table, declaring that she could not walk. On examination, I was convinced that there was no disease whatever of the spine, other than that of a purely hysterical character, and I so expressed myself to her. She nevertheless insisted upon it that her spine was seriously injured, and she continued to keep her bed, lamenting her sad fate at being compelled to pass so long a time shut out from the enjoyments of life. There was no paralysis, or even simulation of it, for she moved her legs about freely enough in bed. But one evening her brother, who had long been absent, returned home. She heard the bustle in the house attendant upon his arrival, but all were too busy to pay any attention to her in her chamber up-stairs. Suddenly exclaiming, 'I can stand this no longer,' she sprang from her bed, rang for her maid, and, hurrying on her clothes, proceeded down-stairs and entered the drawing-room, to the great surprise of all her family."

A very common belief on the part of the victim of hysteria is that she is "not

understood." She is very apt to think that every one is against her, that she is neglected, and that even her best friends are intentionally unkind to her. She entertains an exaggerated belief in her own importance. She is always thinking of herself, and is apt to forget that she is not an equally agreeable object of contemplation to others. Often enough she is despondent and depressed, and she sheds tears profusely, but a few minutes after has forgotten her grief and laughs immoderately without any adequate cause. Laughing and crying alternate with almost ludicrous rapidity, and sometimes even they may co-exist. Often the patient is listless and indifferent to everything of ordinary interest, or she may be absorbed in some trivial occupation. She may exhibit great restlessness and impatience, with extreme irritability of temper on any attempt being made to control her in any way. It is not uncommon for these patients to display an emotion exactly the reverse of that which would be ordinarily excited. One, for instance, draws the chief prize in a lottery, and begins at once to cry and ring her hands. Another hearing that burglars have broken into the house and stolen the plate and jewellery, sits quietly in her chair, with her hands folded in her lap, and seems rather to enjoy it than otherwise.

Excited sensibility is another very common accompaniment of the hysterical condition. One patient cannot bear the light; another is distracted by the slightest sound; to a third all ordinary odours are intolerable; whilst to others certain tastes are highly objectionable. Here is an example:—"A middle-aged hysterical woman, whom I saw in the hospital a few days ago, had been lying for weeks with her hand before her eyes 'to keep out the light' of a dull London sky. Bringing a candle before her—the room being so dark from an accidental fog that I could not see the pupils—she shuddered, knit her brows, and held both hands between her and its feeble light. There was no undue contraction of the pupils, and when her mind was distracted to the condition of her front teeth—the light being still close to her eyes—the brows were relaxed, the hands removed, and there was no expression whatever of uneasiness." The same author, in describing another case, says:—"A lady to whom I was speaking lately, in a tone by no means loud, exclaimed in a voice much noisier than mine, and putting her hands to her ears at the time, 'Not so loud, not so loud!' but a moment afterwards she stirred the fire so vehemently, and made so much noise in the process, that it was positively annoying to myself, and this without appearing to give herself the least uncomfortable sensation."

Illusions and hallucinations are by no means uncommon in hysteria, and may be connected with one or more of the senses. In the majority of cases the patient at once recognises the fact that they are illusions, and nothing but illusions. She sees certain things, but she is aware that they are purely ideal and that they have no actual existence. She does not "believe in them," and they exert no influence over her actions. Moreover, they are rarely permanent, and soon take their departure.

Hysterical people often complain of pain, which is chiefly muscular in origin. It is often experienced in the chest or back, and especially between the shoulders and over the loins. A very common hysterical pain is that occupying some one point in the head; the patient speaks of it as a sensation like that which might be caused by driving a nail into the part. It is often situated just above one eyebrow, and it

sometimes comes on every day at the same hour, like brow-ague. Occasionally the pain is experienced in the breast, and a fear may be entertained that a cancer is breeding. Pain in the joints is a common manifestation of hysteria, and may be mistaken for some serious disease. It has been stated on good authority that among the higher classes of society at least four-fifths of the female patients who are commonly supposed to labour under diseases of the joints labour under hysteria and nothing else. This may be an exaggeration, but at all events it serves to show the frequency with which pain occurs as a symptom of hysteria. "Such pain, wherever it may be situated, usually requires strong adjectives for its description, and the account given of it is sometimes tediously minute. I have heard one hysterical lady enumerate and detail nine different kinds of pain in her chest! Of these, some were bearable, some 'intolerable,' others 'agonising,' four or five of them usually appeared together, and were present at the moment of description, and yet the face was calm, and simply conveyed the expression of interest in the description."

One of the commonest seats of hysterical pain is in the abdomen, just below the ribs, and it occurs with greater frequency on the left side than the right. Sometimes the pain is lower down, either in the groin or a little above it, and then, too, the left side is more frequently affected. The pain is an acute—nay, a very acute—pain, and the patient cannot tolerate the slightest pressure on the part, and can barely suffer the weight of the bed-clothes. It is not only the deeper parts, but even the skin and muscles, that exhibit this tenderness. Many a patient has been leeches and blistered under the impression that she had peritonitis, when in reality the symptoms were purely hysterical in nature.

In some cases of hysteria there is complete loss of sensibility over the whole of one half of the body. On that side you may prick them, run needles into them, as much as you like without their feeling it, and what is more, no bleeding follows the injury. This fact was first discovered in the case of a patient in one of the Paris hospitals. On leeches being applied, their bites yielded very little blood on one side, whilst on the other it followed as usual. This loss of sensation is a symptom which requires to be sought for, and, in fact, many patients are quite surprised when its existence is revealed to them. A curious circumstance is that the lost sensibility may, in many cases, almost immediately be restored by the application to the skin of plates of metal, such, for instance, as gold coins. This fact was known and published years and years ago, but it has recently been rediscovered and received by the medical world with considerable *éclat*.

Many of the ordinary processes of life with which the majority of us go on unfelt or unheeded are keenly appreciated by the hysterical patient. She feels the movements of the heart, the pulsation of the vessels caused by the circulation of the blood, and even the passage of the food from the stomach into the bowels. Many of these people complain of a feeling like a lump in the throat; sometimes it seems as though it would choke them, and an effort may even be made to get rid of it by swallowing a little water or a morsel of bread. We need hardly say that the sensation is perfectly imaginary, and that there is no lump or anything of the kind there. Hysteria is a complaint that may at times simulate almost every disease under the sun. Sometimes even vomiting of blood may be hysterical in origin. In proof of

this, we cannot do better than quote the following case, which rests on the evidence of a physician of the highest eminence in his profession :—"A romantic girl," he says, "was for some months under my care in the hospital with this complaint. She vomited such quantities of dark blood (which did not coagulate, however), as I should not have thought possible if I had not seen them. Day after day there were potfuls of this stuff; yet she did not lose flesh, and she menstruated regularly; and, what was very curious, the vomiting was always suspended during the menstrual period, and recurred again so soon as the natural discharge ceased. I said she was romantic, but I should rather have said that she had that peculiar mental constitution which belongs to hysterical females. She used to write me long letters of thanks for my attention, though I was heartily tired of her; and these were couched in all the fine language of the *Minerva* press. At last I sent her away, just as bad as when she came into the hospital. Five or six years afterwards she called at my house with a present of some game, and told me she had got married to a hair-dresser, and was quite recovered."

We occasionally observe in hysterical patients, especially at the catamenial period, a complete suppression of urine, lasting from twenty-four to thirty-six hours. There may, perhaps, be some uneasiness experienced, and the pulse may be quickened, but after a short time a few spoonfuls of urine are expelled, and the normal state is restored. In other instances, during the lapse of several successive days, weeks, or even months, the quantity of urine secreted in the twenty-four hours may be quite insignificant or almost nil. Occasionally there is complete suppression for days together. When matters take this turn there is superadded, as it were of necessity, another phenomenon, which may be regarded as the complement of the first, and that is vomiting, the ejected matter presenting the appearance and exhaling the odour of urine. This may go on for weeks or months without any visible disturbance of the general health. Of course, this condition may be feigned, and girls have been known to drink their urine in order to conceal the fact of their having been able and obliged to void it, but in many cases the patients have been so strictly watched that there was no possibility of deception, and no reasonable doubt can be entertained of the truth of the phenomena we have described.

It must be admitted that many of these facts are very difficult to explain, but they are none the less real for that. Many doctors refuse to have anything to do with them, declaring that they fall within the province of Dr. Lynn or Mr. Maskelyne, or Robert Houdin, rather than within that of the physician. That is absurd, and those who are acquainted with the care and accuracy with which observations are now carried on in the wards of our hospitals, know that deception is well-nigh impossible. Hospital nurses, nowadays, are intelligent, well-educated young women, with sharp eyes and quick ears, and they are as incapable as the physicians of countenancing any imposture. More than that, in some cases in which doubts have been expressed as to the reality of the phenomena, the patients have for a time been placed in a straight waistcoat, so that they were powerless to help themselves in any way.

In a case of hysterical suppression of urine, which was in one of the Paris hospitals in 1871, the patient also suffered from contraction of all her limbs. The

contraction was as perfect as it is possible to conceive—in fact, it was absolute—persisting night and day, during sleeping and waking, even resisting the influence of sleep induced by chloroform. As her physician says, “Better conditions could not be desired to render surveillance easy. I took care, moreover, to place near her two devoted patients, bed-ridden like herself, who were ready to reveal all if they should discover any trickery. I had there the best possible police, that of women over women, for you are aware that if women enter into any plot among themselves they very seldom succeed. This statement will, I believe, be sufficient to convince you that simulation was impossible.”

There is a group of symptoms, known to doctors as “spinal irritation,” which if not identical with hysteria, is, at all events, closely allied to it. Its nature may be gathered from the following condensed description of a case :—

The patient, an unmarried lady, aged twenty-three, first came under observation complaining of pains in the head and face, loss of appetite, nausea, flatulence, palpitation, breathlessness, “sinking feelings,” weakness, and low spirits. The pain, which was the chief suffering complained of, was sharp and neuralgic in character, and varying in its seat, being sometimes in one part of the head or face, sometimes in another, and generally on the left side only. In the head it was confined to a spot which might be covered with the tip of the finger. Headache, in one form or another, was brought on, or exaggerated, by any effort, physical or mental ; it was usually relieved by lying down and keeping perfectly still ; it was scarcely ever absent except when faceache had its turn ; and sometimes it was so continuous and oppressive as to necessitate remaining in bed for days together. Nausea and sickness were its frequent accompaniment, and vomiting and great prostration were its common termination. In the upper part of the spine there were considerable tenderness and a disagreeable feeling of weight, and pressure there brought on or increased the headache, and induced a feeling of nausea and oppression. The feet were always cold ; “chills and flushes” were of frequent occurrence, and so were yawning, sighing, and stretching of the arms. Sleep was often made hideous by nightmare ; fits of lowness of spirits and crying, attended by a sense of choking, as from a ball or knot in the throat, and followed by plentiful gushes of pale, limpid urine, were brought on by the most trivial causes, and the manner and appearance were altogether those of an eminently nervous or hysterical person.

These symptoms, it appeared, had their starting-point about twelve years before, in the shock and grief caused by witnessing the death of a brother, her last remaining near relative, in an epileptic fit. Before that the patient had enjoyed fairly good health. Her family history, however, was bad, for in addition to the brother who died in the fit, it appeared that she had lost her father from consumption, and that her mother was then under confinement in a lunatic asylum.

Under the use of a more liberal diet, with ammonia and calumba, and with occasional blisters to the nape of the neck, health was re-established in little more than a month.

A year or so later this young lady again returned to her medical attendant, looking very worn and thin, with all her old symptoms in force, and with cough and difficulty of breathing in addition. The cough was very violent ; barking,

unattended with expectoration, and often carried on until it ended in retching and vomiting. The difficulty of breathing was chiefly at night; usually it was slight, but now and then quite asthmatic in character; almost invariably it was accompanied by a sharp pain in the left side, or by severe aching in the left shoulder and down the left arm. An examination of the chest failed to detect anything wrong with the heart or lungs, but pressure along the spine revealed tenderness in the neck and back, and at the same time brought on cough, deep inspirations, pain and throbbing at the pit of the stomach, and a feeling of great faintness and breathlessness. On this occasion a very fair state of health was soon re-established by the plan of treatment which proved successful in the first instance.

Two years later, this lady, then married again, applied to her doctor. For three weeks she had been in bed with her knees bent, and the thighs drawn up tightly against her abdomen. This contraction was unremitting during the waking state, and only partially relaxed during sleep; it was unattended by pain, and could for the time be overcome by slow and steady extension. The headache and faceache had quite gone, and so had the pain at the pit of the stomach, and in the left shoulder and arm; the cough, and difficulty of breathing, and palpitation, were of rare occurrence, the appetite and digestion, and the action of the bowels, were tolerably natural, and the patient now complained chiefly of colicky pains in the lower part of the abdomen, pains often very severe and sickening about the loins and hips, with constant calls to pass water, attended with considerable pain on so doing. The spine was now tender, not in the upper part, but quite low down towards the loins; and pressure over this region brought on colicky pains in the lower part of the abdomen, with an almost irresistible impulse to pass water then and there. Pressure in the upper part of the spine gave rise, not to the marked symptoms produced in this way in the two previous illnesses, but simply to a disagreeable thrill all over the body. There was no numbness or tingling in the legs or elsewhere, but tickling the soles of the feet gave rise to painful spasmodic shocks in the legs, to a disagreeable thrill passing up the body as high as the throat, and to the involuntary escape of a small quantity of urine. The condition of the general health was fairly good, in fact much better than during the two previous illnesses.

It appeared that somewhat more than twelve months before, after having been quite well for the year previously, the patient married, and in due course became pregnant. In the early months of pregnancy she had much headache, depression, weakness, and sickness; but after a while these symptoms passed off, and everything went on smoothly and satisfactorily until two months after confinement, when her baby died suddenly. The fretting about her baby brought back the old headaches, the headaches produced great sleeplessness and irritability of the stomach, and then came on a state of uncontrollable fidgetiness which kept her incessantly moving about until her legs, one leg especially, failed altogether, and obliged her to take to her bed, when on the very next morning the leg had become contracted. The treatment on this occasion consisted chiefly in a liberal allowance of food and wine, in repeated blisterings over the spine, and in the administration of bromide of potassium; the result was the cessation of the contractions in about three weeks, and the complete re-establishment of health in about two months and a half.

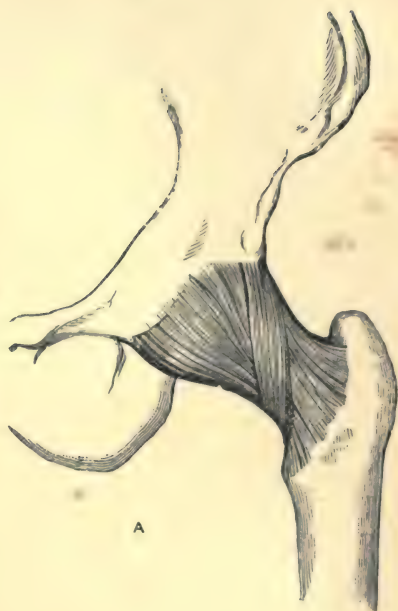
Tenderness over the spine is always a prominent symptom in these cases of so-called spinal irritation. Often enough, however, it is not complained of until specially inquired after, and now and then its existence is not even suspected by the patient until she is made to wince on the application of pressure. Nervous pains, neuralgias of different kinds, often shifting suddenly from one place to another, are a very common, perhaps the most common, symptom of this affliction. They are often brought on by lifting any weight, by twisting or straining the back, or by any effort, mental or physical; and as often they are relieved, to some extent at least, by lying down. Nausea, retching, and vomiting are also common symptoms, as are spasmodic cough and difficulty of breathing. Palpitation is sometimes met with, often in connection with a feeling of pulsation at the pit of the stomach, throbbings in the temples, heats and flushes, and a tendency to faint. The contraction of the limbs, which formed so conspicuous a symptom in the case we have quoted, is by no means of uncommon occurrence in this form of hysteria. The lower extremities are the parts most frequently affected, but occasionally the arms are also involved. This contraction, which is generally painless, may continue for weeks or months, even during sleep, or there may be occasional intermissions of short and uncertain duration. The onset of the attack is usually very sudden, and the departure is often equally abrupt. In a case occurring in one of the Paris hospitals, there was contraction of the leg of at least four years' standing. On account of the misconduct of this patient, her physician gave her a stern admonition, and threatened to turn her out. On the next day the contraction had entirely disappeared. In another instance the patient was charged with theft, and the contraction, which had lasted for two years, vanished suddenly from the moral shock caused by this accusation. As a rule, there is no real paralysis of the limbs, and the functions of the bladder and bowel are not interfered with. One of the most remarkable characteristics of this peculiar complaint is the suddenness with which all the symptoms may disappear and be replaced by others. The victims of this disorder are, with few exceptions, of a distinctly hysterical or nervous temperament. They are very prone to pass under or after any strong emotion or excitement large quantities of pale limpid urine. They usually suffer from sudden and distressing flatulent distension of the stomach and bowels, with loud rumblings and explosions, accompanied by the feeling of a ball rolling about, first in the left flank, and then mounting or tending to mount into the throat, where it gives rise to a sense of choking and to repeated acts of swallowing. At times they suffer from bursts of crying, sobbing, or laughing, and they may sigh and yawn, and stretch the arms, and have fits of convulsive agitation and struggling. Other symptoms from which they frequently suffer are breathlessness, nervous cough, palpitation, throbbing in the temples or at the pit of the stomach, flushes and chills, fainting, hiccup, nausea and vomiting, aversion to food or unnatural craving for it, heartburn, languor and debility, fidgetiness, tremulousness, singing in the ears, and many others of a similar nature.

Whatever the symptoms complained of may be, we suspect that the affection is hysterical if the patient is a young unmarried woman, if her menstrual functions are performed irregularly, and especially if, at some former period, she has suffered from fits of hysteria. Our suspicion is confirmed if we find

that these symptoms have existed for a considerable time, without any corresponding deterioration of the general health or strength. When the complaint simulated is some form of inflammation, the thermometer renders good service in enabling us to distinguish between the true and false disease. In real inflammation there is always elevation of temperature, whilst in its counterfeit presentment there is no fever. Hysterical affections have all a strong family likeness, and this often enables us to decide upon the nature of a doubtful case. Moreover, there is a peculiar expression about hysterical women, impossible almost to define, yet readily recognised when once it has been observed. They crave for sympathy, and always endeavour to make out that they are worse than they really are.

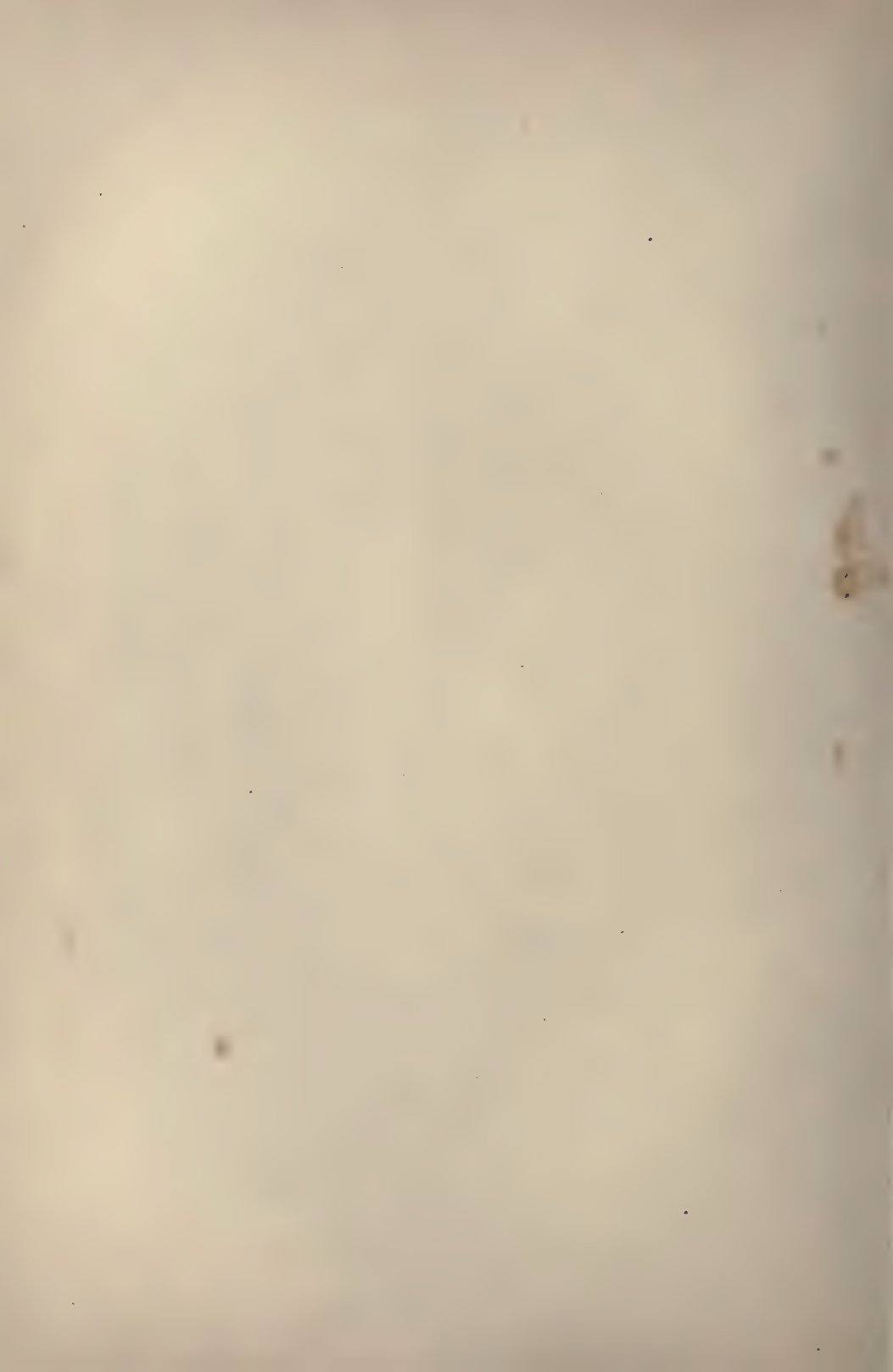
Hysteria, when once established, is a very difficult complaint to cure. The most hopeful cases are those which have been recently established. In young people much may be done to avert a tendency to hysteria by judicious mental and moral training, but when the disease has taken a firm hold of its victim, it often requires a long course of treatment to restore the nervous system to its former degree of stability. It is important to keep the bowels in order by carefully-regulated diet, or, if necessary, by the cautious administration of aperients. The cold sponge-bath, exercise in the open air, either on foot or horseback, and the avoidance of hot, close rooms, are important elements in treatment. Hysterical girls are often in the habit of sitting up late at night novel-reading, and of lying in bed in the morning; this should be put a stop to without a moment's hesitation. Systematic study should take the place of light literature, a change which works wonders in improving the general mental and moral condition. There is no one drug that can be trusted to cure hysteria, and each case must be treated on its own merits. The first thing is to endeavour to improve the condition of the general health. When there is anæmia we give iron (Prs. 1—7), and when there is want of nervous energy we rely on quinine (Pr. 9), or nux vomica or phosphorus (Pr. 53 or 54). If there be indigestion or flatulence, we resort to one or other of the remedies mentioned when speaking of those complaints. Decided benefit is often derived from a course of bromide of potassium (Pr. 31), and sometimes large doses succeed when smaller have failed. Valerianate of zinc is a valuable remedy in hysteria. The chief indications for its employment are hysterical spasms coming on, chiefly in the evening, a lump in the throat, a profuse discharge of clear watery urine, great sensitiveness and tendency to shed tears, and neuralgia, especially if situated in the neighbourhood of the groin. The dose is five grains three times a day, and it may be given either dissolved in water or in pills. Musk and assafoetida are often used in hysteria, but they seldom do much good, at all events permanently.

Now, as regards the "spinal irritation" cases. The application of leeches or a blister to the affected portion of the spine will often do a great deal of good. Cases that have existed for months are sometimes cured in a single day by a good large blister. As regards medicine, benefit is often derived from the use of the ordinary tonics, such as quinine, steel, cod-liver oil, and the different preparations of phosphorus. It is, no doubt, advisable to avoid standing or walking to the extent of



HIP AND KNEE JOINTS.

- A. Left hip joint from before, showing capsular ligament.
- B. Section of ditto, showing synovial capsule.
- C. Knee joint from before, showing crucial ligaments and semilunar cartilages.
- D. Section of ditto, showing synovial cavity, etc.



producing fatigue, but there is no necessity, except as a very temporary measure, to insist upon the recumbent position being retained for any length of time. A "spinal apparatus" is seldom or never required. As regards diet, the great thing is to see that plenty of nutritious food is taken, in conjunction with wine or some other alcoholic drink. In many cases there is a great prejudice on the part of the patient against the use of stimulants, but this must be overcome, for the progress of cure is greatly facilitated when the diet is made to include a fair share of some alcoholic liquid.

During a fit of hysteria there is very little to be done. The patient is in no danger, and will come round all in good time if let alone. Her dress should be loosened, she should be prevented from hurting herself by striking the floor or furniture, and she should have plenty of fresh air. Smelling salts should be held under the nostrils; and, if she can swallow, 15 grains of bromide of potassium should be given. Should the insensibility, or apparent insensibility, continue, cold water may be poured on the face. An old writer, speaking of cold water, recommends that its application should be "sudden and lavish," but the great objection to it is that it spoils the carpet. A very good substitute is to dip the end of a towel in cold water, and then flap the face and hands with it pretty vigorously. An attack may often be arrested by closing the mouth and nose with the hand, so that the patient cannot breathe. She soon begins to struggle, and at last succeeds in getting loose, and taking a deep breath, and this often stops the fit. Sometimes the fit may be stopped by keeping up firm pressure with the hand over the painful spot in the groin for three or four minutes or more. A calm manner, the absence of all appearance of alarm, and of either scolding or distressing sympathy, will in many cases bring the paroxysm to a speedy conclusion.

There can be no doubt that often recovery is retarded by injudicious manifestations of sympathy on the part of friends and relatives. Their assiduous tenderness serves only to keep up the craving for attention and interest which is so constant and striking a feature of the malady. In illustration of this fact, a physician tells the story of a lady who had terrified her friends and excited the greatest commotion by threatening to put an end to her existence by jumping out of the window. "When I saw her," he says, "she was strapped down to a bed, and was being supplicated by half a dozen people in the room not to kill herself, to which she was energetically replying that she would. I loosened the straps, opened the window, and told her to jump out. She walked to the window, looked out for a moment, and then, applying no very polite epithet to me, went back to bed, and I heard no more of her suicidal desires." In every case of hysteria it is of the utmost importance that, while the value of self-control is inculcated, healthy mental occupation and recreation should be afforded. Travel is of inestimable advantage, and, above all, association with men and women whose intellects control their emotions, and who are endowed with sound common sense, and that tact and knowledge of human nature which for the purposes of every-day life are of greater value than many other qualities often more highly estimated.

INDIGESTION, OR DYSPEPSIA.

Indigestion is the prevailing and fashionable malady of civilised life. The doctor is more frequently consulted about disorders of digestion, and those connected with eating and drinking, than about any others.

Rightly to understand that condition which we call dyspepsia, it is necessary to have some acquaintance, however rudimentary, with the physiology of digestion. In the natural process of digestion the food is first masticated and mixed with saliva, and then swallowed. In the stomach it is moved about by a kind of revolving or churning action, and is acted on by the gastric juice, which reduces it to a semi-fluid consistence, and converts it into a uniform pulp known as "chyme." It then passes into the intestines, where it is mixed with bile, and with the pancreatic juice, which is secreted by the pancreas, or sweetbread, and closely resembles saliva. The nutritive portion of the food is now taken up by the veins and other vessels, and is by them carried into the blood, whilst the excrementitious part, which is useless for the purposes of nutrition, is conveyed out of the body. The gastric juice is a secretion poured out by and peculiar to the stomach. It is an acid fluid, and to its acid, combined with a substance known as "pepsine," it owes its solvent or digestive properties. The readiness with which the gastric juice acts on different articles of food is in a great measure determined by their tenderness and state of division. By minute division of the food, the extent of surface with which the digestive fluid can come in contact is increased, and its action proportionately accelerated. A weak, dyspeptic stomach acts slowly, or not at all, on solid lumps or tough masses of food. A knowledge of this fact affords an explanation of one of the commonest causes of dyspepsia, and at the same time suggests the appropriate mode of treatment. Persons who are subject to dyspepsia should never eat in a hurry, as busy men and those of studious and solitary habits often do. They should be cautioned not to "bolt" their food, which should be well ground in the mill of Nature's own providing. It has been supposed, and the supposition appears feasible, that the increased longevity of modern generations is in some degree attributable to the capability of chewing their food which the skill of the dentist prolongs to persons advanced in life. Tender and moist substances offer less resistance to the action of the gastric juice than do tough, hard, and dry ones, for they are thoroughly penetrated by it, and are thus attacked not only on the surface, but at every part at once. The readiness with which a substance is acted on by the gastric juice is, however, no indication of its nutritive value, for a substance may be nutritious, and yet, on account of its toughness and other qualities, hard to digest, and many soft, easily-digestible bodies contain comparatively little nutriment. It is obvious, however, that a substance which the stomach cannot digest is incapable of nourishing the body, and there is therefore, so far, a necessary connection between the digestibility of a substance and its power of nourishing.

These are not mere matters of speculation, but of actual observation. Some years ago an American physician, Dr. Beaumont, was afforded the singular privilege

of looking whenever he liked into the interior of a healthy man's stomach, and watching the process of digestion. This privilege was obtained by what must be regarded, from a medical point of view, as a happy accident. It appears that a young Canadian, Alexis St. Martin, had a portion of the skin, muscles, and ribs of the left side of his body blown away in a gun-shot wound, which laid open the stomach also. He recovered from the frightful injury, but with an open wound in the side which led directly into the stomach. The opportunity was taken, with the patient's consent, of instituting a number of experiments on the process of digestion. Different articles of food were eaten by St. Martin, and the action of the gastric juice upon them in the stomach was carefully watched. It is difficult to over-estimate the value of the information so obtained. In fact, it is to these observations that we owe much of our knowledge respecting the relative digestibility of different articles of food. It was found that beef was more readily digested than mutton, and mutton more readily than either pork or veal. Among the substances most quickly digested were rice and tripe, both of which disappeared in an hour. Fowls are far from possessing the digestibility usually attributed to them, but turkey is of all kinds of flesh, except venison, the most readily disposed of.

There are certain substances upon which the gastric juice exerts no action, and it should be remembered that whatever goes through the stomach untouched, passes undissolved through the whole of the alimentary canal, and appears in the motions unchanged. The frequency with which such substances as dried currants and apple-pips are passed unaltered is familiar enough to all. Indigestible substances, instead of being at once excreted, are occasionally retained in the stomach, causing pain, indigestion, and irritation for days and days together.

There are many circumstances, besides the nature of the food, which exert an influence on the process of digestion. First and foremost among these is the quantity of food taken; for the efficient performance of digestion the stomach should be fairly filled, but not distended. Dr. Beaumont's experiments showed that a certain bulk was necessary for the performance of healthy digestion. This fact has long been known by practical experience to uncivilised nations. Thus the Kamschatdales are in the habit of mixing earth or saw-dust with the train oil on which alone they are frequently reduced to live, and the Veddahs, or wild hunters of Ceylon, on the same principle mingle the pounded fibre of soft and decayed wood with the honey on which they feed when meat is not procurable. The time which has elapsed since the last meal was taken should, for the effectual performance of digestion, be sufficient to ensure the stomach being quite clear of food. The amount of exercise taken previous and subsequent to the meal is not without its influence, gentle exercise being favourable, and over-exertion injurious, to digestion. Then there is the state of mind, tranquillity of temper being apparently essential to quick and easy digestion. In addition may be mentioned the state of bodily health, and the state of the weather.

This naturally brings us to the consideration of the causes of dyspepsia. These will probably have been in a measure anticipated from what we have said concerning the normal process of digestion. There is no more frequent cause of dyspepsia than an excessive consumption of food. Over-eating, whether it consists

in a single surfeit, or in that habitual indulgence, to excess of which so many of us are guilty, is especially injurious. Drinking too much fluid of any kind at a meal is mischievous, by over-diluting the gastric juice and impairing its solvent power. Imperfect mastication of food, either from carelessness or hurry, or owing to the pain of bad teeth, is another cause. Indigestion may arise from an improper arrangement of the meals; some people, for example, take only one meal in the twenty-four hours, whilst others huddle all their food into the stomach at four or five periods within seven or eight hours, and then leave it idle for sixteen or seventeen hours. The error most frequently committed is that of not allowing a sufficient time to elapse between the meals to permit of the stomach doing its work and getting a proper rest. The stomach is a long-suffering organ, but still you must not impose on its good-nature; it must have time to perform one task before it can set about another. It is just as bad to allow too long an interval to elapse between the meals as too short a one, and many cases of severe and obstinate dyspepsia have been induced by the habit of going without anything to eat from an early breakfast to a late dinner. A very marked effect of long-fasting is familiar to all under the title of having "overstayed the appetite," and it has been found that the secretion of gastric juice is greatly diminished by long abstinence from food.

Much has been urged respecting the injudicious admixture of foods as a cause of dyspepsia. Of the frequently injurious influence of a mixture of many different kinds of even wholesome articles of diet there can be no doubt. It is impossible, however, to make any very positive assertion on this point, for within certain limits variety is undoubtedly conducive to health, and the too strict limitation to one or two kinds of food is frequently quite as detrimental as excessive heterogeneous indulgence. Eating indigestible or unwholesome food is, as every one knows, one of the commonest causes of dyspepsia. In addition to substances which may be regarded as generally more or less injurious there are many which become injurious only from the circumstances or condition under which they are taken. For example, there are many people who can eat pastry in the middle of the day, but who don't dare touch it for supper or at a late dinner.

Want of bodily exercise, excessive labour, inordinate intellectual exertion, mental anxiety, and general debility, are all prominent factors in the production of dyspepsia. The nervous irritability of many literary and scientific men has its origin in dyspepsia. Sedentary pursuits, with over-mental labour, will soon disturb the digestive functions, for, as has been very justly said, one digests with the legs almost as much as with the stomach. There can be no doubt that in many cases dyspepsia may be traced to excessive indulgence in tea or coffee, or alcoholic liquors, to the inordinate use of condiments, to immoderate smoking, or even to the practice of taking large quantities of snuff.

We must now consider the symptoms of dyspepsia. They vary very much both in nature and severity, one individual suffering severely when his dinner "disagrees" with him, whilst another experiences merely a slight depression. In chronic cases, however, there will usually be loss of appetite, pain, or a feeling of weight and fulness in the chest or stomach, flatulence or wind, nausea or vomiting, costiveness

alternating with diarrhœa, acidity, a furred tongue, and offensive breath. In addition there may be dull headache, giddiness, and disinclination for exertion. All these symptoms need not, of course, be present in every case, but some of them are sure to be.

The appetite in dyspeptics is very variable. In some it remains but little affected, there being simply a distaste for certain articles of food, whilst in others there is an absolute repugnance to all forms and varieties of food. It occasionally happens that the appetite is absolutely increased, whilst in many instances a persistent sense of uneasiness or emptiness, with constant craving for food, is experienced. More rarely the appetite becomes depraved, the patient not merely craving for aliments of an unwholesome character, but swallowing earth, coals, chalk, and other substances which are not only void of nutritive properties, but are disgusting and even absolutely injurious. Thirst is usually absent, at least, to any abnormal degree. Sometimes there is positively a dislike for fluids, which not unfrequently, especially when taken at meals, aggravate the dyspeptic symptoms.

A sensation of pain or uneasiness in the chest or stomach is a very frequent symptom of dyspepsia. In some cases it comes on mainly when the stomach is empty, and disappears under the influence of a meal; in others it comes on only after food. Sometimes it is more or less persistent, being present when the stomach is empty, and increasing in severity after eating. Sometimes it is experienced immediately after a meal, but it may be delayed for two, three, or even four hours.

Respecting flatulence, or wind, we shall have more to say presently. It is usually a prominent symptom of dyspepsia, and eructation may be for a time almost continuous.

The nausea and sickness of dyspepsia are often extremely distressing. Vomiting may ensue when the stomach is empty, but more frequently it occurs soon after a meal; occasionally it is delayed for an hour or more. The vomited matter may consist of food, almost unaltered, or of a clear watery fluid, having many of the characters of saliva. Between these two extremes there are all kinds of gradations. The quantity also varies very much, there being in some cases only a few tea-spoonfuls, whilst in others the whole contents of the stomach are forcibly ejected.

Pyrosis, or water-brash, is of frequent occurrence in connection with dyspepsia. It is characterised by "heartburn," or a burning sensation in the stomach, followed by the vomiting, or rather eructation, of a thin watery liquid resembling saliva, sometimes sourish, but usually insipid and tasteless. The quantity of fluid rejected at one time may vary from a mouthful to a pint or more.

The tongue in dyspepsia varies considerably in character, but it seldom or never presents an entirely healthy appearance. When it is habitually clean and moist, neither too florid nor yet too pale, and of natural size, you may be pretty sure that digestion is efficiently performed. When, on the contrary, the tongue is furred, with excessive redness of the tip and sides, or when the whole organ is swollen, flabby, and indented at the edges, there is some interference with the functions of the stomach.

Costiveness is a very frequent concomitant of gastric affections, and this sluggish state of the bowels often aggravates, if it does not produce, dyspepsia. The evacua-

tions may be dry and solid and hard, and are usually very offensive, and whiter in colour than natural. When there is much irritation, diarrhœa may supervene, and when the motions are liquid they are often frothy, from fermentation having taken place.

Palpitation of the heart, irregularity of the pulse, and even fits of asthma may arise from a disordered stomach. Even when the patient does not suffer from distinct asthmatic attacks, there is often a sensation of shortness of breath. The feeling is of a load or oppression in the upper part of the chest, especially across the breast-bone, impelling the patient to sigh or draw a deep breath in order to relieve the sensation, which, however, speedily returns. It is not at all uncommon for sufferers from indigestion to torment themselves with the belief that they have disease of the heart. Dyspeptic patients are particularly liable to suffer from different forms of skin disease, such as nettle-rash and acne, the latter appearing as red spots about the nose and cheeks. The severer forms of indigestion, especially when there is much sickness, are often attended with considerable debility and emaciation. In fact, the loss of flesh will sometimes rival that met with in cancer or consumption.

We must not conclude our account of the symptoms of dyspepsia without referring—however briefly—to the mental condition which it engenders. We all know, many of us from personal experience, that indigestion interferes with intellectual work, and impedes the expression of thought. The habitual dyspeptic often exhibits great lethargy, which may become so great as to cause him to be incapable of even the slightest mental exertion. After meals he usually experiences an invincible desire to sleep, and exhibits an insurmountable repugnance to move. He often displays a marked degree of nervous irritability. He is low-spirited, and his low spirits may vary from slight dejection and ill-humour to the most extreme melancholy. He is frequently morose, and so irritable that he cannot bear to be thwarted in the slightest degree, either by word or deed. He misconceives every act of friendship, is suspicious of those who desire to serve him, and exaggerates slight ailments into substantial grievances. In fact, the confirmed dyspeptic makes anything but a pretty picture. The mental condition so often associated with dyspepsia did not escape the acute observation of Sydney Smith. Referring in his characteristically humorous way to the horrors of indigestion, he says :—

“The longer I live the more I am convinced that the apothecary is of more importance than Seneca, and that half the unhappiness in the world proceeds from little stoppages, from a duct choked up, from food pressing in the wrong place, from a vexed duodenum, or an agitated pylorus. The deception as practised upon human creatures is curious and entertaining. My friend sups late; he eats some strong soup, then a lobster, then some tart, and he dilutes these esculent varieties with wine. The next day I call upon him. He is going to sell his house in London, and to retire into the country. He is alarmed for his eldest daughter's health. His expenses are hourly increasing, and nothing but a timely retreat can save him from ruin. All this is lobster; and when over-excited nature has had time to manage this testaceous incumbrance, the daughter recovers, the finances are in good order, and every rural idea effectually excluded from the mind. In the same manner old friendships are destroyed by toasted cheese, and hard salted meat has led to suicide.

Unpleasant feelings of the body produce correspondent sensations in the mind, and a great sense of wretchedness is sketched out by a morsel of indigestible and misguided food."

Now, as to the treatment of dyspepsia. If you really want to get rid of your indigestion, and we suppose you do, it is not such a very difficult matter. In the first place you will have to regulate your diet, for without this all your efforts will be futile. The great secret is to take the most easily assimilable food, and at the same time to avoid overloading your stomach. Your food should be varied, but selected for its digestibility. Three moderate meals a day are usually sufficient unless you are a very hard worker, but sometimes four are necessary. Meat should be eaten at least twice a day. Beef and mutton, and game with the exception of hares and rabbits, are excellent; but pork and veal are very indigestible, and should be avoided. If you like chicken, or sweetbread, or tripe, take them by all means. You must avoid all meats that have been hardened by culinary art or by condiments, and all cured meats such as ham, tongue, sausages, and so forth. Eggs, if they agree with you, are to be recommended. Fish is not so good, but may be eaten in moderation. Oysters often agree well, but differences in this respect are observed in different individuals, and some people cannot take them.

Vegetables should be by no means excluded from your diet, but a certain amount of caution is requisite in their use. If they cause much flatulence, their place may be supplied by rice or macaroni, or by some kind of fruit, such as grapes or strawberries, or, better still, stewed prunes. Your potatoes should always be well boiled, unless you like them fried or mashed, and they should not be new. Other kinds of vegetables should also be fresh and carefully cooked. Turnips, parsnips, carrots, and Jerusalem artichokes may, perhaps, not agree with you; but you may take spinach, vegetable marrow, beet-root, and young peas and French beans with perfect safety. All raw vegetables, such as salads, cucumbers, and pickles, must be eschewed.

Bread should not be eaten new. If you cannot get on with the ordinary household bread, try the aerated bread. It is very nice for a change, although few people like it for a permanency. If this does not do for you, you will have to fall back on biscuits or toast. Fresh butter you may eat in moderation.

Pastry is to be eschewed, but light farinaceous puddings—rice, sago, and arrow-root—are digestible enough. Fried dishes are forbidden, and in the same category must be placed shell-fish, nuts, pickles, and cheese. Sugar may be used in moderation, but jams, marmalade, and other condiments are seldom admissible, except perhaps in the case of elderly people and those habituated to their use. "Things sweet to taste prove in digestion sour;" moreover, they possess very little power of increasing the flow of gastric juice, and are apt to set up irritation.

What ought you to drink? May you take wine or beer, or brandy and water? You would be much better without anything at all, especially if you have been in the habit of taking a good deal. Not good to give it up all at once? Not at all, there is not the slightest danger. Do you not know that the health of even the most inveterate spirit-drinker improves instead of suffers upon the sudden and total abstinence from spirits? But you are not an inveterate spirit-drinker? Quite so;

but the principle is the same. Well, if you really cannot do without something in the way of stimulants, we suppose you must have it. Abernethy used to say that nobody could be persuaded to pay due attention to his digestive organs till death or the dread of death was staring him in the face, and he was about right. At all events, we shall have to keep you strictly within the bounds of moderation, and you must not take anything except at meals. What may you have? Well, if you really must have it, it does not matter so very much how you take it—sherry, or claret, or hock, or champagne, just as you like. The best way is to ring the changes on them, if they all agree with you equally well. You must strictly limit the quantity: a pint bottle of champagne, three fair-sized glasses of sherry, or a pint of good claret is quite enough for the day. Raw spirits are strictly forbidden—no, not even your *petit verre*. May you have beer? You may try it if you like, but malt liquors are very apt to produce wind, so do not grumble if you have to suffer for it afterwards. Simple aerated waters, soda or seltzer, often prove very grateful to an irritable stomach. If you take coffee after your dinner, do not taste it for at least half an hour after you have finished your meal.

The following plan of diet is recommended in, say, the case of a gentleman about forty, engaged in business for six or eight hours daily, and troubled with an irritable, revengeful stomach, and no great amount of vital power:—

- 7.0 A.M.—A cup of tea or a tumblerful of equal parts of milk and soda water, or of milk and lime water, or of milk with just a dash of rum or brandy.
- 7.30 A.M.—*To get up.* Cold or tepid sponge-bath, containing sea-salt; brisk rub with rough towel. Dumb-bells or Indian clubs. Dress leisurely. If fine, five or ten minutes' walk in open air.
- 8.30 A.M.—*Breakfast.* One cup of tea or coffee with plenty of milk, or cocoa made with nibs. Sole, or whiting, or the lean of a not over-cooked mutton chop, or one or two new-laid eggs lightly boiled. Stale bread, or toast with a little fresh butter. Watercresses occasionally if they do not cause flatulence.
- 1.0 P.M.—*Luncheon.* Oysters, if they agree, or slice of roast mutton. Biscuit, or stale bread. One glass of dry sherry. If there be little or no appetite, a raw egg beaten up in a glass of sherry, and taken with a biscuit, may be substituted.
- 6.0 P.M.—*Dinner.* Cod, sole, whiting, smelts, turbot, or brill. Mutton, venison, chicken, grouse, partridge, pheasant, tripe, sweetbread, boiled leg of lamb, or roast beef. Stale bread. Cauliflower, asparagus, vegetable marrow, French beans, floury potato, or sea kale. Half a wine-glassful of cognac in a bottle of soda water, or two glassfuls of dry sherry or claret. A few grapes, an orange, a baked apple, or strawberries if desired.
- 9.0 P.M.—A small glass of cold brandy and water and a biscuit, or cup of weak tea with slice of bread and butter, or a small cup of gruel or arrowroot.
- 11.0 P.M.—*Bed.* To sleep on a mattress without much covering. The room to be properly ventilated, and a small fire kept burning if the weather is cold.

Such a dietary as this would probably prove too liberal for a person of sedentary habits. We, of course, were presuming that a fair amount of exercise had been taken, and that something attempted, something done, has earned a night's repose.

This is merely a broad outline of what a dyspeptic should take and what he should avoid, but to this, as to all rules, there are many exceptions. Milk agrees capitally with most people, but with some it induces vomiting, diarrhoea,

and absolute indigestion, and must then be avoided. No one with a grain of sense would take what he knows will upset him, and any one who has been suffering for some time with dyspepsia has a wonderfully correct knowledge of the aliments which best agree with him.

It is important not only to refrain from substances which are indigestible, but also to avoid mixing together in the stomach different substances of various degrees of solubility. Hence there are two reasons why it is salutary to dine off one dish. In the first place you avoid the injurious admixture just adverted to; and as to the second, you escape that desire to eat too large a quantity, which is provoked by new and various flavours.

We have already referred to the importance of allowing the stomach time to perform one task before another is imposed upon it. Abernethy always exhorted his patients to allow five or six hours to elapse between one meal and the next, and there can be no doubt that his advice was as much founded in reason as justified in practice. There are very, very many people who allow a much shorter interval than this between each of the three principal meals of the day, and the effects of such a system are every bit as injurious as those of over-eating. Many delicate people think it is necessary to eat often to keep up their strength, but fail to recognise the fact that when meals are taken frequently they should be small. The injurious effects of eating between the meals cannot be over-estimated. When meat is eaten in tolerable quantities two or three times a day, the addition of milk, eggs, wine, beef-tea, bread and cheese, biscuits, &c., destroys the beneficial effects of all. It should be remembered also that the amount of food required varies with the expenditure of the system, and that a person leading a sedentary, inactive life requires far less food than one who is performing considerable bodily or mental labour.

Attention to general hygienic conditions will do much in the treatment of dyspepsia, although it will seldom effect a cure unless the diet be also regulated. The sufferer from dyspepsia should take plenty of exercise, especially in the open air. Walking and riding often exert a considerable influence in increasing the digestive powers of the stomach, and in the case of those who of necessity lead sedentary lives in large cities, the use of the gymnasium often proves of the greatest service. Exhaustion, however, is most carefully to be avoided, and after active exercise time should be allowed for the body to cool before food is taken. The effects of cold or tepid bathing, and the daily use of the hair glove or flesh-brush, are often very beneficial. Mental distress, mental solicitude, mental toil, and over-much study, are all prolific sources of dyspepsia, and those harassed by care or anxiety, as well as those engaged in absorbing intellectual pursuits, should take their meals in cheerful society. A light heart is a great digester. You will do well to encourage an indolent sense of contentment for some little time after eating, so as not to divert from the stomach the nervous force which is so essential for the due and proper performance of its functions. A change of scene often does a great deal of good, and a run down to Brighton, or Margate, or Folkestone, or Eastbourne, if only for a few days, may be tried with advantage. Six weeks among the mountains of Switzerland, or upon the

rivers of France or Germany, will often do more towards restoring a dyspeptic to health than a twelvemonth's regimen and physicking at home.

There is one apparently trivial, but in reality extremely important, point to which we wish especially to call attention. See that your teeth are in good working order, and if they are not, go to a dentist and get them supplemented or replaced by new ones. If mastication is imperfectly performed, all treatment directed to the stomach will be in vain. In a letter which recently appeared in the *Lancet*, a source of dyspepsia was pointed out, which we believe has been very generally overlooked. The writer says:—

"When I was travelling on the Continent last September I lost two of my front teeth, and afterwards another; besides this, one of my back teeth was so tender that I could not masticate with that side of my mouth. This tooth, on my return to London, my dentist, whom I have employed for twenty years, told me would be of no further use to me, and it was extracted.

"I now determined to go to any expense, that for the remainder of my days my mouth and teeth might be in proper order (the upper jaw only being affected). For a month I gave the gums time to harden, then a cast of the upper part of the mouth was taken, and four days before Christmas, everything being in readiness, the new arrangement was placed *in situ*, a perfect fit, quite comfortable. I felt proud of my appearance; and could bite the hardest substance with every tooth in my head; but to effect this there was a gold plate covering the whole of the *roof of the mouth*. I remonstrated against this, and was told that it was of no consequence, that the tongue was the organ of taste, and that it would not interfere with the process of digestion. Now what happened? I masticated perfectly, the saliva mixed with the food, and then went down my throat as though it had passed through a tin funnel. For a few days I felt no evil consequences; but in about a week or ten days I began to get out of order—griping, &c. First the gastric juice went wrong; then there was one day too great a supply of bile, another day too little, and at last none at all—in fact, congestion of the liver. Knowing that nothing will attack this except blue-pill, although I never take medicine, I went home one Sunday evening at seven with a pure blue-pill, and slept soundly for sixteen hours, and after this a mild aperient. The action of the liver and the bile was restored; but still I had no appetite. I tried to tempt it with a good dinner, but turned away from everything, and I have gone four days and a half without food or drink, except perhaps water.

"Having thirty years ago attended lectures in Edinburgh on Physiology, including the subject of digestion and dietetics, it now suddenly occurred to me that in covering up what my dentist called the roof of my mouth he had, in fact, covered up my palate, and I went to him one day at eleven, and then and there insisted that a large piece should be cut out of the plate, leaving what remained in the form of a horseshoe, with quite as firm a bearing as before, and freedom of contact between the tongue and the palate. Two hours afterwards I enjoyed my lunch, as I have every meal since; and although after such disorganisation time and attention are necessary, yet every meal I now take is adding to the tone of the stomach and system."

The medicinal treatment of dyspepsia is by no means an easy problem. When

the tongue is red and has a raw appearance, and the general symptoms are those indicative of a certain amount of irritation of the stomach, bismuth, either alone or in combination with hydrocyanic acid, is the appropriate remedy. The ordinary dose of carbonate of bismuth is fifteen grains, but a larger dose, say up to thirty grains, may often be taken with advantage. It should be administered suspended in a little water. We have already given a formula for a mixture containing bismuth (Pr. 18), and three minims of dilute hydrocyanic acid may be added to each dose. Bismuth should always be taken about half an hour before meals; it does little or no good if taken on a full stomach. A dose should be taken every four hours. It is especially indicated when nausea and vomiting are prominent symptoms. Should bismuth not succeed, arsenic (Pr. 40) may be tried. A teaspoonful of the mixture may be taken four times a day, shortly before meals. It is a valuable remedy, especially when there is an irritable condition of the stomach or intestines.

When the tongue is large and flabby, and the symptoms generally indicate want of tone in the stomach, bitters are employed. Those most commonly used are the infusions of gentian, quassia, calumba, cascarilla, chiretta, and chamomile, and perhaps absinthe and hop. Quinine is not much used in stomach affections, unless loss of appetite is the prominent symptom. Respecting the relative merits of the different infusions, it may be stated that calumba appears to present certain sedative properties, and may often be administered when the others would be too irritating; and that gentian, in addition to its bitter properties, has also the advantage of being a slight laxative. The dose of the different infusions is from two to four table-spoonfuls, and of the corresponding tinctures from one to two tea-spoonfuls. They should be taken about half an hour before meals, the infusions alone, and the tinctures in a wineglassful of water. The infusions very rapidly decompose, especially in hot weather; but the tinctures, being prepared with spirit, will keep for almost any time. If the infusions are used they should be freshly prepared; there can be no greater mistake than using medicines that are not of the best possible quality.

Alkalies, as we have already seen, have a marked power of increasing the secretion of the gastric juice. With this view, bicarbonate of soda is usually given in fifteen-grain doses about half an hour before meals. It is best administered in combination with one of the bitter infusions. We have already given a formula for a gentian and soda mixture (Pr. 14), but cascarilla or calumba, or any other bitter may be substituted for the gentian. Acids given about half an hour after a meal are often a great aid to digestion. Weak hydrochloric acid is usually employed for this purpose, it having been ascertained that the natural acidity of the gastric juice is due to this substance. The acids, like the alkalies, are usually given with some bitter infusion. The acid and gentian-mixture (Pr. 15) is a good formula, but the gentian may, if thought desirable, be replaced by one of the other infusions. Acids, if given before meals, lessen the secretion of gastric juice, and should consequently always be given after food unless acidity is the prominent symptom.

Pepsin enjoys a high reputation in the treatment of many forms of dyspepsia. It is the active principle of the gastric juice both in man and many of the lower animals. The pharmacopoeial preparation is obtained from the stomach of the pig.

For the benefit of those who may have to prepare it for themselves, we may briefly explain the process, particularly as it presents no difficulty. The stomach of a recently killed pig is cut open and laid on a board, with the inner surface upwards. Any adhering portions of food, dirt, or other impurity are removed, and the exposed surface is slightly washed with cold water. The cleansed mucous membrane is then scraped with a blunt knife, and the viscid pulp so obtained is spread on a piece of glass or glazed earthenware, and quickly dried in the sun or before a fire. In this way a light yellowish-brown powder is obtained, the dose of which is five grains. It should be given after the two chief meals of the day, either alone or at the same time as the acid mixture. It is a very valuable remedy when the functions of the stomach are imperfectly performed, and is especially indicated where pain or other disturbance follows the use of animal food. Many chemists keep pepsin wine and pepsin lozenges, both of which are convenient and agreeable forms of taking the medicine. The preparation sold as rennet wine is prepared as follows:—Take the stomach of a calf as fresh as it can be obtained from the butcher. Slit it up from one end to the other, and then gently wipe the inside with a clean, dry napkin, taking care to remove as little of the clean mucus as possible. Then cut the stomach into small pieces, the smaller the better, and put it all into a common wine bottle. Fill up the bottle with good sound sherry, and let it remain corked for a fortnight, when it will be fit for use. It is to be taken immediately after meals—a tea-spoonful in a wine-glassful of water, to which if necessary from ten to fifteen drops of dilute hydrochloric acid may be added.

When uneasiness rather than pain occurs after a meal, with a sensation of weight at the pit of the stomach, and indisposition for mental or bodily exertion, it may be inferred that the work of digestion is slow and difficult, from too scanty secretion of gastric juice. In these cases it is desirable to employ those drugs which are known to promote the secretions of the stomach, and for this purpose we may administer before meals either the gentian and soda mixture, or a little ipecacuanha wine. The ipecacuanha is especially indicated when the dyspepsia is associated with constipation, and is characterised by depression of spirits, flatulence, coldness of the extremities, and the food lying on the stomach “like a weight.” The wine should be given in a dose of from five to ten drops half an hour before meals. In this form of dyspepsia, the use of salt, mustard, or cayenne pepper as condiments is not objectionable.

In one form of dyspepsia the pain does not begin till from two to four hours after a meal, but continues for several hours. It is frequently accompanied by pain and tenderness on the right side, and is supposed to be due to an excess of acid in the stomach. At all events, it is speedily removed by a small dose of any alkali, such as fifteen or twenty drops of sal volatile in a little water, or a dose of the gentian and soda (Pr. 14) or bismuth (Pr. 18) mixtures. In a closely-allied form, in which pain is experienced when the stomach is empty, and is relieved by taking food, the same mode of treatment may be adopted.

There is another form of dyspepsia in which the movements of the stomach and intestines are over-energetically performed. The food is no sooner swallowed than the stomach, instead of digesting it, passes it on into the intestines, where, owing to

its crude condition, it acts as an irritant, and sets up diarrhœa. Patients suffering from this disorder have a constant feeling of emptiness in the stomach; this is relieved by food, but no sooner is the meal finished than it returns, and they feel hungry again. There is in this disorder always an evacuation of half-digested food immediately after a meal, and sometimes even before it is finished. This complaint is very common in children from six to twelve years of age. It can nearly always be cured by giving from two to five drops of laudanum in a little water a few minutes before each meal. This small quantity of opium received into the stomach before digestion has commenced is sufficient to quiet and regulate its muscular movements, upon the inordinate extent of which the symptoms are dependent. If a larger dose be given, it not only arrests the muscular movements, but also the secretion of the gastric juice, and so increases instead of calming the disturbed state of the digestive organs. Trousseau attached so much importance to the small dose that he always commenced with a single drop of laudanum, augmenting it if necessary. Should the laudanum fail, a tea-spoonful of the arsenic mixture (Pr. 40) may be taken immediately preceding each meal. Belladonna, too, is undoubtedly useful in this form of dyspepsia, although its beneficial effect is less marked than that of opium. As in the case of opium, it is essential that it should be given in small doses—three drops of the tincture of belladonna just before the commencement of each meal. Many people, especially those advanced in life, suffer from a sensation of sinking or craving at the pit of the stomach. This may depend on want of tone in the stomach or on the general condition of health. If the intestines are not in an irritable condition, cod-liver oil may be given with advantage—say a tea-spoonful three times a day.

In the so-called irritative dyspepsia, where the tongue is furred and covered with scattered red points, a tea-spoonful of the arsenic mixture (Pr. 40) taken shortly before food acts like a charm. This mode of treatment often cures pain after food, vomiting, and other dyspeptic symptoms. It is a valuable remedy.

Dyspepsia is often complicated with constipation, and little benefit would be obtained from treatment until this is removed. In remedying constipation in these cases much care is required to avoid irritation, and only the gentlest and least irritating laxatives are admissible. When possible even these should be dispensed with, and the action of the bowels, when not occurring spontaneously, should be daily solicited by an enema of cold water. Friction over the stomach, the wet compress worn at night, protected by a piece of mackintosh, or the use of the cold douche to the abdomen, will often prove useful adjuncts. When medicines are given, rhubarb and aloes are to be preferred to others. The dinner pills (Pr. 65) not only act on the bowels, but considerably increase the digestive powers. Recourse should be had as little as possible to purgative remedies, for it may afterwards become difficult to dispense with their assistance, and their habitual use tends further to exhaust the muscular and nervous power of the stomach and intestines.

Nux vomica is a drug which is frequently used in the treatment of dyspepsia, caused by taking indigestible food. It is indicated when the symptoms are pain,

tenderness, and fulness of the stomach after meals, heartburn, sour acid rising, flatulence, frequent vomiting of food and bile, a sour or bitter taste in the mouth, and morning headache accompanied by a feeling of disinclination for exertion. It is also useful in the case of people of a sallow, yellowish complexion, who, in addition to the above symptoms, suffer from irregular action of the bowels with ineffectual urging. This, it will be seen, is just the dyspepsia of men of business and intellectual workers, who perform their tasks with hurry and worry, and give neither brain nor stomach fair play. *Nux vomica* is said to be especially indicated in persons of a dark bilious complexion, who in addition to employing their brains too much, take but little out-door exercise, eat largely, and drink freely of alcoholic liquors. The *nux vomica* mixture (Pr. 44) may be advantageously employed.

Pulsatilla (Pr. 43) is the remedy for indigestion arising from fatty food or pastry, and accompanied by heartburn and frequent loose evacuations. It is indicated in the case of females suffering from deranged periods, particularly when the tongue is coated with a white rough fur, and when there is nausea with little vomiting and absence of much pain.

The Turkish bath is the best remedy for people who, after dining out, suffer the next day from malaise and slight indigestion. In the case of gouty subjects, it is advantageous to combine colchicum with any anti-dyspeptic remedy.

So much then for the medicinal treatment of dyspepsia. We have an almost unlimited faith in the curative action of medicines, but on the principle of *audi alteram partem*, we give the advice of a physician, evidently no believer in drugs, to a long-suffering dyspeptic. It is as follows:—"1. Take a good stock of the usual medicines for stomach disorders, and go down to Southampton. 2. Go on board the first Peninsular and Oriental steamer for Gibraltar, with return ticket. 3. Throw all the medicines overboard. 4. Live like other people as soon as you have got your sea-legs, and smoke when you can." He adds that in an ordinary case he would almost guarantee a cure, and that "No. 3 is to be especially attended to."

Many of the more prominent symptoms of dyspepsia, such as vomiting, pyrosis, and flatulence, are of such importance that their treatment necessitates a separate and detailed account.

INFLUENZA.

Influenza is an epidemic disorder attended with great depression, chilliness, running from the eyes and nose, headache, cough, restlessness, and fever. It was called influenza by the Italians, because it was attributed to the "influence" of the stars. In France it is known as the "grippe." It has received various other names, for it has been known and noticed from the remotest antiquity. Thus we learn that in 827 A.D., an attack of cough spread like a plague over the whole of Europe, and some forty or fifty years later, the army of Charlemagne, returning from Italy, suffered most severely from the same complaint. During the present century some ten or a dozen epidemics have been recorded, the most noteworthy being those of 1803, 1831, 1833, 1837, and 1847. It was formerly supposed that an outbreak occurred regularly once in a hundred years, but during the seventeenth century there

were twelve distinct epidemics, from which we may conclude that the intervals are in reality much shorter.

Occasionally the disease is limited to a comparatively small area, but more frequently it invades a large portion of the earth's surface. In some instances so great has been its prevalence that almost all parts of the world have been attacked. Its onset is in many cases remarkably sudden; thus in the year 1837 it seized upon all parts of the metropolis within the space of a very few days. It has been observed to occur also at the same time on land and on board different vessels which have had no communication either with the shore or with each other. Often enough it breaks out simultaneously in many different places, but sometimes its progress from country to country is comparatively slow. Thus it has spread over the whole of Europe in six weeks, but it may take six months to do so. In any particular country its progress may also be slow; thus between the invasion of London and of provincial towns, or of Scotland, weeks, or even months, may elapse.

A curious circumstance in the history of these epidemics is that they appear to travel or migrate from place to place, and this they do in spite of adverse winds and variations in temperature. In spreading over a large tract of country, influenza has been observed to follow a regular course, usually from north or north-east to the south and west. It has been known to pass from Chinese Tartary to Russia, Germany, Holland, England, Scotland, France, and then to Italy and the Mediterranean, or to America, in rapid succession. In its course it appears to pass over seas, and has, as we have said, been known to attack ships in mid-ocean.

When it enters a large town it usually remains there from six weeks to two months, but sometimes its stay is more protracted, as at Paris in 1831, where it was prevalent more or less for nine or ten months. Ultimately, however, it always disappears, and in the intervals of the attacks isolated or sporadic cases never occur. Where it comes from originally no one can tell. Some people think it always exists at some one spot and spreads from there, whilst others maintain that under favourable conditions, whatever those might be, it may originate anywhere. Usually, each nation attributes to its neighbour from whom it derived the disease the unenviable honour of having originated it. Thus, the Italians have called it the German disease; the Germans, the Russian pest; the Russians, the Chinese catarrh, and so on; these names affording, as will be seen, some indication of its usual tract.

In passing through a country it does not attack all parts of it; most commonly it spares the villages and small towns, but sometimes even large towns escape. It is generally met with in cities before appearing in the towns and villages around. In large cities an outbreak is usually made up of a number of localised attacks, certain streets or districts being more frequently affected than others. The number of people seized during an epidemic is usually very great. In London, in 1847, it has been calculated that at least 250,000 persons suffered, in Paris between one-fourth and one-half of the population, and in Geneva about a third.

Influenza prevails on every soil and geological formation, and there is no evidence to show that it is in any way connected with volcanic disturbances, as was at one time asserted. It is not, as far as we know, in any way influenced by

electrical or magnetic conditions of the atmosphere. A favourite theory years ago was that it was caused by an excessive accumulation of electricity in the animal economy. It occurs at all times of the year, and not especially at any particular season. It is not dependent on cold or sudden variation in temperature, and it is a mistake to suppose that such is the case. It is uninfluenced, too, by moisture, for it is met with in the dry air of Upper Egypt, in the moist air of sea-coasts, and even on the sea itself.

It has been suggested that influenza might depend on the presence in the atmosphere of an excessive quantity of *ozone*. Pure or atmospheric oxygen when exposed to the action of electrical sparks is transformed into an odoriferous matter called ozone, which is supposed to be merely a modified form of oxygen. Most persons who have stood near an electrical battery at the time of its discharge must have noticed a peculiar smell, and it is said the same odour pervades the air during the prevalence of thunderstorms. It is asserted that the inhalation of strongly ozonised air produces a painful affection of the chest—a sort of asthma, accompanied with violent cough, and from this it has been argued that ozone must be the cause of influenza. The conclusion is certainly not justified by the premises, and the fact that the disorder may prevail in a city or town, while a village a mile or two off remains untouched, tells heavily against this theory.

In some cases a thick and acrid fog has shortly preceded or has immediately ushered in the influenza. We are told that the gripe of the spring of 1733 appeared in France immediately after offensive fogs, “more dense than the darkness of Egypt.” So also in 1775 it is recorded that the disease was ushered in by “thick noisome fogs.” In the same year it visited the shire of Galloway, in Scotland, where “a continual dark fog and particularly smoky smell prevailed in the atmosphere for five weeks, the sun being seldom seen.” It is recorded, too, that in 1782 “the sun was for many weeks obscured by a dry fog, and appeared red, as through a common mist.” In 1837 “a dark fog brooded over the metropolis” during the prevalence of the distemper. It has been observed, too, that during the prevalence of these epidemic catarrhs various species of brutes and of birds have been extensively affected with sickness, while on some occasions prodigious swarms of insects have made their appearance. These statements are worth recording, but too much importance must not be attached to them, for they may be mere coincidences.

The main spread of influenza is not influenced by the wind, it does not move with the same velocity, and it often moves against it. Yet it is probable that in some cases the direction of the wind may have some share in its propagation. Thus we are told that on April the 3rd, 1833, the *Stag* frigate was coming up the Channel, and arrived at two o'clock off Berry Head, on the Devonshire coast, all on board being at that time well. Half an hour afterwards, the breeze being easterly, and blowing off the land, forty men were down with the influenza; by six o'clock the number was increased to sixty, and by two o'clock the next day to 160. On that evening a regiment on duty at Portsmouth had a clean bill of health, but on the following morning so many of the soldiers were affected by the influenza, that the garrison duty could not be performed.

It is no easy matter to decide whether influenza is infectious or not. The

rapidity of its spread would seem to negative the idea of there being any connection between human intercourse and the propagation of the disease. We are told that at St. Petersburg, in 1782, 40,000 people were attacked with influenza in a single night, and this clearly could not have been by contagion. Moreover, the epidemics do not seem to follow the great lines of commerce. On the other hand, when it has entered a town in which investigations can be carried on, it has frequently been proved that the first cases have been introduced, and that the townspeople nearest the invalids have been the first to suffer. So also when it breaks out in a house, it often attacks one person after another. In some instances isolation or seclusion of a community, as in prisons, has given immunity; or, at all events, the inmates have not been attacked. All contagious diseases have a remarkable property, and that is, that after the entrance of the poison into the system, there is a period of incubation or latency during which it lies dormant and produces no symptoms, or, at all events, none of which we are cognisant. This incubative period is supposed not to exist in the case of influenza, which strikes down persons in perfect health almost like a stroke of lightning. In some cases, however, a period of incubation may possibly have existed, but even then it is undoubtedly very short. Whether influenza affords immunity from future attacks is another point on which there is some discrepancy of opinion. Although persons seldom suffer twice during the same outbreak, it is probable that they are not protected against a subsequent epidemic.

Influenza occurs both in men and in women, and with about equal frequency. It attacks people of all ages; but young children, it is said, are less affected by it than old. Domestic animals—dogs, cats, &c.—often suffer in the same way. In 1827 there was an epidemic of influenza amongst horses, which spread over almost the whole of Europe. At that time influenza prevailed among men in North America, Mexico, and Siberia, but not in Europe. Persons in over-crowded dwellings usually suffer more than those who are more favourably situated as regards sanitary conditions. In several instances large schools and barracks have been first attacked, the disease raging there for some days before breaking out in the town around. People living in low, damp, ill-ventilated places are more likely to suffer than others.

The symptoms of influenza are somewhat as follows:—The patient feels chilly, or perhaps shivers; presently headache occurs, with a sense of tightness across the forehead; the eyes become tender and watery; and sneezing and a copious acrid discharge from the nose ensue, followed or accompanied by heat and uneasiness about the throat, hoarseness, a troublesome cough, a sense of constriction in the chest, and oppression of breathing. In fact, the symptoms are those of a very bad cold, to which are added a sudden early and extraordinary subdual of the strength, and most commonly great depression of spirits. The debility which comes on at the very onset of the complaint is one of its most striking phenomena, occurring as it does almost instantly, and being apparently so much greater than would have been anticipated from the symptoms it ushers in. Indeed, this rapid and remarkable prostration is more essentially a part of the disorder than the catarrhal affection, which is sometimes, though rarely, absent or imperceptible. Not unfrequently there are disturbances of the digestive organs; the tongue is white and creamy, appetite

and taste are completely lost; nausea and vomiting are not uncommon, and there may be diarrhoea. The skin, at first hot and dry, soon becomes moist, and sometimes exhales a peculiar musty odour. In some epidemics, profuse perspiration has been a prominent symptom. The patient complains also of pains in the limbs and back, and of much soreness and tenderness in various parts of the body. In a simple, uncomplicated case, the disease runs its course in three or four days, and the patient is convalescent before the end of the week. Cough and much debility are apt to last longer than the other symptoms, and till the patient gets rid of these the complaint is easily renewed. The most frequent complications are bronchitis, inflammation of the lungs, and rheumatism. Respecting the course of the temperature, we know little or nothing: it is a subject for observation in future epidemics. In some cases delirium is a prominent symptom, and is to be regarded as an unfavourable sign. The cough is usually very severe, and has been known to produce rupture, and to give rise to abortion in pregnant women. The cough, at first dry, is soon attended with thick, stringy expectoration, often tinged with blood.

Influenza cannot be regarded as a very serious disease, although the mortality varies greatly in different epidemics. In 1837 the death-rate was only about two per cent., and this was universally acknowledged to be an unusually severe outbreak. Although the relative number of deaths to those attacked was so small, the absolute mortality was enormous; and it was calculated that in that year more people died of influenza than died of the cholera which had raged a few years previously. In fact, funerals were for a time so numerous, that the resources of the undertakers were stretched to their utmost. One firm alone had seventy-five bodies waiting for interment, and mourning coaches and black horses could not be procured in sufficient numbers to meet the demand. It will be seen that the danger of influenza to the community is great, whilst to the individual attacked it is comparatively small. Death claims a certain number, but has, so to speak, a very large choice of victims. In cholera it sometimes happens that half the patients die, but then the number attacked is comparatively small.

True influenza is met with solely as an epidemic attacking large numbers of people, and spreading rapidly over the whole of the globe. If we bear this in mind there will be no danger of our confounding it with those local catarrhal affections that occur in all temperate climates almost annually. One thing is certain with respect to influenza, and that is that it does not arise from exposure to cold, or, as we say, from "catching cold." This has been observed in many epidemics.

The very young and the very old bear influenza badly, especially the latter. A writer during the prevalence of the epidemic of 1837 says: "The daily newspaper obituaries have been unusually long, and the ages of the persons whose deaths they announce are in almost all cases great." Frequent delirium, convulsions, and fainting are bad symptoms; whilst as favourable signs may be mentioned copious warm sweats, free expectoration, spontaneous diarrhoea, and a copious red deposit from the urine. People with pre-existing lung disease often bear influenza very badly. Curiously enough, it seldom attacks those labouring under acute diseases until the period of convalescence arrives, when their immunity apparently ceases, and they become just as liable to its invasion as others. Thus it has often happened that a

patient labouring under typhus or typhoid has escaped as long as the fever continued, but on the very day convalescence commenced the symptoms of influenza appeared. This is a very unfortunate circumstance, for just as a poor fellow has struggled through an illness of three or four weeks' duration, he is attacked with a new and dangerous malady, which again places him in a situation of imminent danger.

We know of no means by which influenza can be prevented. Unfavourable hygienic conditions, and especially over-crowding, heighten its prevalence and severity, but persons in the most favourable circumstances may be attacked. It has been thought that those in well-warmed and yet ventilated houses escape best, but this is very doubtful. In one of the last epidemics it was said that persons who took the best care of themselves, who always went warmly clothed and were never exposed to the inclemency of the weather, contracted the disease just as readily as the half-clad labourer who had to undergo daily exposure to the vicissitudes of our changeful climate.

We now come to the treatment of the disease when it has actually declared itself. It is of great importance to have the room cool and properly ventilated. In a common cold the patient is best in bed and in a warm room; but in influenza, if the patient is not too ill, it is better to get him out of bed after the third day, and place him on a sofa. Draughts and chills must be avoided on account of the risk of inflammation of the lungs. As there is usually complete loss of appetite, it is a difficult matter to get him to take much nourishment. Solid food may have to be abstained from in bad cases for two or three days. Should beef-tea be given, it should not be very hot, as it is apt to increase the headache and languor. Plenty of milk should be given, alone or mixed with soda water, as may be most palatable to the patient. Cold drinks, orange and lemon juice, cream of tartar water, raspberry vinegar, weak citrate of potash, citric acid and water flavoured with sugar, barley-water with lemon-juice, infusion of mallows, and so on, should be given *ad libitum*, and when there is much fever they should be iced. Weak cold white wine whey often proves grateful. In the way of stimulants, claret or hock, with seltzer water, is useful; but in the case of old people suffering greatly from debility, it is usually necessary to give port wine or brandy. As soon as the fever begins to subside, the patient should be encouraged to take solid food, although at first there may be little or no appetite. The air of the sick-room should be kept moist by means of the steam of a kettle placed on the hob, or by putting boiling water into flat, shallow vessels. The inhalation of hot steam several times a day from a suitable inhaler may prove useful, and the addition of ten or twenty drops of chloroform to the water may subdue the violence of the cough.

Bleeding in influenza always proves injurious, and the high mortality in some epidemics is believed to have been due to the adoption of this mode of treatment. Active purgation is to be avoided, but in many cases it is a good plan to begin treatment by the administration of a three-grain calomel pill at bed-time (Pr. 61), followed by a draught in the morning (Pr. 25). The calomel generally brings away copious dark-coloured motions, after which the patient is much better in spirits, and the fever abates. In the case of children a dose of grey powder may be substituted

for the calomel, or what is even better, an injection of warm water containing a little castor oil may be administered. In simple cases very little medicine is needed, but nitrate of potash (saltpetre) is often given. It should be largely diluted with water, and flavoured with sugar and lemon-juice, so as to be taken as a drink. From one to two drachms of nitre may be administered in the course of the twenty-four hours. When cough is a prominent symptom, linseed-meal poultices should be applied to the chest, back and front, and should be changed every three or four hours, night and day, and oftener if necessary. An occasional mustard poultice, or the application of a mustard-leaf for a few minutes over different parts of the chest, so as just to redden the skin, may do good. Benefit might be derived from painting the chest or back with iodine liniment, taking care not to apply too much. Blisters, as a rule, do no good, and only add to the patient's sufferings. Immediately the acute symptoms are subsiding, quinine (Pr. 9) should be given. In some instances aconite (Pr. 38) and gelseminum (Pr. 41) have been tried, and when administered quite at the commencement of the disease, they may be expected to do good. Cases are recorded where arsenic (Pr. 40) was given throughout with marked benefit. During convalescence iron and quinine (Pr. 11) should be administered, and a very nutritious diet, with beer and wine, must be employed. Milk in large quantities is useful, milk and seltzer water being a favourite remedy in Germany. In all cases of influenza the attendance of a medical man is necessary, and the sooner he is summoned the better.

ITCHING AT THE ANUS.

This is a far more prevalent complaint than is usually supposed. The fact is, the sufferer, from motives of delicacy, seldom mentions its existence, even to his most intimate friend, and often refrains from seeking medical advice from the same reason. This is to be regretted, for there never need be the slightest hesitation in consulting a doctor about any bodily ailment. It may seem a disagreeable matter to have to mention it to anybody, but it must be done, and you will soon find the doctor thinks nothing of it, and takes it quite as a matter of course.

This painful itching about the back passage is a most distressing malady, and many people's lives are rendered almost unendurable by it. The irritation is, in the majority of cases, worse at night, especially when the patient gets warm in bed. The greater part of the night is rendered sleepless and inexpressibly wretched. Towards morning, irritable and worn out, the unfortunate sufferer falls off into a fitful slumber, from which he often awakens by involuntarily scratching himself. This, of course, makes the part more or less raw, and materially increases the discomfort during the day-time. The more the patient scratches, the worse he gets, although it is very difficult to help seeking the temporary relief it affords. Many people say they would infinitely prefer decided pain to the dreadful and constant itching they have to endure. Nervous, excitable people are often greatly troubled in the day as well as at night, the itching setting in badly after exercise, or on leaving the cold air and coming into a warm room. These unfortunates are practically excluded from society.

In many cases, on examining the part, there is nothing to be seen, but sometimes the skin is thick and rough from the scratching, and sometimes a little eruption may be observed in the neighbourhood.

The disorder is met with both in men and women, but it is not of frequent occurrence in young people. In some cases it seems to be a kind of neuralgia, but it is often caused by the irritation of piles, by worms, by confined bowels, and in women by arrest of the periods. It sometimes occurs during the later months of pregnancy. It is frequently induced, or at all events kept up, by habits of too free eating and drinking, although it is occasionally met with in persons who are strictly abstemious. It is sometimes induced, too, by particular articles of food; one man gets an attack after eating lobster or crab, another from indulging in salmon, whilst a third suffers only after drinking champagne or ale. Excessive smoking may act as an exciting cause in those who have a tendency to it.

It must be remembered that itching of the anus is a very intractable complaint, and if you want to be cured you will have to practise a certain amount of self-restraint and self-denial. You will have to follow strictly, patiently, and persistently, the rules laid down for your guidance, for if you do not you most assuredly will get no better. You are a stout, full-blooded, well-to-do, middle-aged gentleman, rather fond of the good things of this life than otherwise. Well, we shall have to cut down your diet. You must give up all rich and highly-seasoned dishes, you must eat but little meat, and live chiefly on fish, poultry, vegetables, and fresh ripe fruit. It is no good saying you will not, for if you want to get better you must. You must knock off your beer and your port and your spirits, and confine your attention to light sherry and claret. You may take Vichy or soda or seltzer water as much as you like. You will have to give up coffee and take tea or cocoa for breakfast. You should take a good long walk every day, and try and get yourself into a slight perspiration. If you are not accustomed to much walking you had better begin with half a mile and gradually increase it, in the course of a week or ten days, to three or four miles, only be careful not to over-do it. You should take a cold sponge-bath every morning, and a warm or Turkish bath once a week. At bed-time well wash the parts with warm water and yellow soap.

Now as to medicine, get this mixture made up, and take two table-spoonfuls of it two or three times a day:—Sulphate of magnesia, an ounce; carbonate of magnesia, forty grains; colchicum wine, forty minims; syrup of senna, an ounce; compound tincture of cardamoms, half an ounce; infusion of cherata to make it up to eight ounces. Then take one of these pills every other night:—Plummer's pill, two grains; compound rhubarb pill, three grains. Mix, to make a pill.

After the washing at night, apply calomel ointment freely. This is an official preparation, and you can get it from any chemist. You will have to persist in this treatment for some time, and if you do you will probably be amply rewarded.

When itching of the anus occurs in young men or women, a different mode of constitutional treatment will have to be adopted. When there is much debility, cod-liver oil may be given internally, in addition to the use of the local applications. When there is anæmia, the different preparations of iron will have to be used as recommended when speaking of that complaint. In excitable nervous people, in whom an attack

is induced by mental anxiety, over-work, or worry, bromide of potassium is the appropriate remedy (Pr. 31). Ten or fifteen grains of chloral may be added to the nightly dose, and this will usually ensure a good night's rest. In alternation with the chloral, advantage often results from taking from one to two drachms of conium juice three times a day. This is the full dose, and must not be exceeded. In addition to this, phosphorus (Pr. 53 or 54) or cod-liver oil taken after meals may do good by restoring the shattered nerve-force. Not unfrequently in young people this malady is a kind of neuralgia, and then anti-neuralgic remedies will have to be resorted to. A course of quinine (Pr. 11 or 9) or arsenic (Pr. 40) or phosphorus (Pr. 53, 54, or 55) may be expected to prove useful. You should never forget to look out for worms, and if they are present you will have to get rid of them by appropriate remedies. (*See WORMS.*) When the itching seems to be due to piles, they will have to be treated. (*See PILES.*) You must always remember that the itching is not a purely local complaint, but a part of a general constitutional malady. At the same time, you will not neglect local applications, but will resort to both internal and external treatment.

There are many applications which may be used besides the calomel ointment, and when one fails you will have to try another. Only do not be in too great a hurry to change; give one a fair trial before you go on to the next. The following is a very good formula:—Carbonate of soda, two drachms; hydrochlorate of morphia, sixteen grains; dilute hydrocyanic acid, half an ounce; glycerine, two ounces; water to make it up to eight ounces. Make a lotion. Dab the part frequently. You must remember that this is a POISON, so that it should be distinctly labelled as such, and should not be left about.

A chloroform pomade sometimes acts admirably. It is made as follows:—chloroform, two drachms; glycerine, half an ounce; lard, an ounce and a half. This to be used frequently. If you do not like the smell of it, tell the chemist to scent it with roses or elder-flowers.

These are all very good applications, but we have by no means exhausted our list. A very useful lotion is one consisting of one part of carbolic acid to a hundred parts of water. Sometimes the skin becomes so red and irritable from the constant scratching that even a weak lotion such as this causes considerable burning and smarting. It is by no means a bad plan to make a small plug of lint, or out of an old handkerchief, soak it in this lotion, and push it up the passage, leaving a part outside to act as a pad. When there is any suspicion that the itching might possibly depend on some parasite such as the itch or lice, sulphur ointment should be freely applied. In obstinate old-standing cases it is a good plan to commence treatment by rubbing the parts thoroughly with a solution of nitrate of silver of the strength of two drachms to the ounce. It usually softens the skin and allays the itching. Condyl's fluid, undiluted, is very useful for the same purpose, and should be applied two or three times a week. A case is said to have been treated most satisfactorily after all remedies had failed by a lotion composed of one part of liquor carbonis detergens to three of water applied freely. Some very obstinate cases had been cured by washing the affected part at bed-time with a saturated solution of borax in water.

However bad the itching may be you should avoid taking laudanum or opium in any form. You may possibly get a night's rest, but you pay for it in the long-run, and are almost sure to be worse the next day. When the irritation is so very great that the patient is almost worn out by want of sleep, a mechanical mode of treatment may be resorted to. Get a plug of bone made shaped like the nipple of an infant's feeding bottle, and furnished with a circular shield to prevent it from slipping into the bowel; the nipple should be about an inch and a half in length, and as thick as the end of the forefinger. This is introduced into the back passage at bed-time, and retained all night. It is most efficient in preventing the nocturnal itching, and a good night's rest is almost sure to result from its use. It is recommended, however, that it should be worn only every other night. The idea of this plug was first suggested by noticing the fact that many patients can obtain relief and sleep, when the itching is very bad, only by introducing the end of the forefinger into the bowel and making pressure.

Itching occurring about the front passage in women is usually successfully treated by one of the applications we have mentioned above. The calomel ointment is especially useful, but in obstinate cases it may be necessary to resort to the employment of leeches or blisters to the inner side of the thighs. A strong solution of alum applied several times a day often succeeds when other things have failed. It must not be forgotten that this complaint may depend on irritation of the womb, and the treatment may have to be directed to this organ.

JAUNDICE.

Jaundice occurs as a symptom in the course of many diseases of the liver. It may depend upon various, and very different morbid conditions, the nature of which in any given case is often involved in obscurity.

The word jaundice is derived from the French, *jaune*, yellow. Its technical appellation is *icterus*, the Greek name for a bird with a yellow plumage, the Galbula, or golden thrush, the sight whereof by a jaundiced person was said to be death to the bird, but recovery to the patient. The Latins called it *morbus argutus*, from its exhibiting some of the bright hues of the rainbow, and *aurigo*, from its resembling gold. Even now-a-days we speak of a person being as yellow as a guinea.

There is never any difficulty in recognising the presence of jaundice, at all events, when well marked. You have only to look at your patient in daylight to see what is the matter with him. By candle or gaslight the yellowness of the skin is readily overlooked, and often cannot be detected at all. The symptoms constituting jaundice may be said to be yellowness of the skin and of the eyes, whitish or drab-coloured motions, and urine having the colour of saffron, and communicating a bright yellow tinge to white linen. There are other symptoms to which we shall have occasion to refer presently. The characteristic yellow complexion of jaundice is owing to the presence of bile in the blood. The deep tint of the urine is evidently derived from the same source. The paleness of the motions is ascribed to the absence of the bile which always exists in natural and healthy excrement.

If there is any doubt as to whether the patient is really jaundiced, or only

yellowish from sallowness, you have only to look at the whites of the eyes and the urine, both of which betray the yellow tint of jaundice very early and conclusively. The greenish-yellow colour of countenance observed in that form of anæmia called chlorosis (*see* ANÆMIA) might, on a superficial examination, be mistaken for jaundice. The slightest attention would serve to rectify the error, for in that complaint the whites of the eyes are even whiter than natural, and the urine is normal in appearance. In cancer, and other wasting diseases, the skin often assumes a greenish-yellow, or lemon-coloured, waxen appearance; but here again the whites of the eyes have the proper colour. A dusky yellowish tint of the surface is not unfrequently seen in persons who have suffered much from ague; and sometimes also in those whose systems have been poisoned with lead; but this need never be confounded with jaundice. Jaundice has been successfully feigned by soldiers and sailors desirous of obtaining their discharge. The yellow colour of the skin has often been simulated by painting it with infusions of saffron, turmeric, rhubarb, broom-tops, or soot; whilst the colour of the urine has been heightened by taking rhubarb or santoline. The point that puzzles these gentlemen is that they cannot make their eyes yellow—they remain persistently white. Moreover, they cannot stand being washed; a little soap and water, or better still, a weak solution of chloride of lime in water, at once cures their jaundice and reveals the imposition.

The colour of the skin in jaundice varies in different people. The young, and those who are pale and fair, present a bright lemon colour. In those who are florid, or whose cheeks and skin are flushed with fever, the tint will more resemble that of a Seville orange. If the patient be naturally swarthy, or if his visage be livid or dusky through imperfect action of the heart and lungs, the super-addition of jaundice will give him a greenish, or olive hue. In old age the colour is usually less livid. Sometimes, in very bad cases of jaundice, the face becomes quite dark in colour, constituting green or black jaundice. Even in the same person the intensity of the colour may vary from day to day, according to the diet, the amount of bile secreted by the liver, and the activity of the bowels and kidneys. The colour of jaundice often remains in the skin for some time after the cause has been removed, and it is important to know this with reference to treatment. It is useless in such a case to continue the administration of medicines which act on the liver, but the departure of the colour may be expedited by warm baths, and drugs acting on the bowels and skin.

Often enough in jaundice the perspiration is coloured by the bile, so that it stains linen yellow. Sometimes the saliva and tears have been found to be similarly affected. Sometimes the milk is tinged, whilst at others it is not. In one case, a woman with deep jaundice suckled her baby for six weeks without imparting to it a yellow colour, or affecting its health in any way.

Derangement of digestion is nearly always associated with jaundice. It generally takes the form of flatulence, or wind, and constipation. In jaundice the bowels are nearly always most obstinately confined. Naturally the bile acts as a kind of stimulus to the intestines, and when it is not secreted in the proper way, there is nothing to make them act. People in jaundice often suffer greatly from the hardness of the motions. They strain and strain, and yet are unable to pass anything. This difficulty may be the starting point of piles.

Itching of the skin, without the occurrence of any eruption, is sometimes a very obstinate and annoying symptom in jaundice. It may be so intolerable as to drive the sufferer almost crazy.

It is an old notion that to the jaundiced eye all things appear yellow. By many this is regarded as a mere poetical fiction, but certainly it is sometimes, though very rarely, a fact. Curiously enough, in one case everything appeared yellow when looked at with one eye, but not with the other.

Jaundice usually induces a condition of general debility and exhaustion, associated with mental depression and irritability of temper. The temperature of the body, provided there be no concurrent cause of fever, is usually slightly below the normal standard. The pulse is often reduced to 50, 40, or even 20 beats in the minute. This slowness of the pulse is particularly noticeable when the patient is lying down; when he stands up the circulation is quickened.

Jaundice, as we have seen, may depend on a great number of different causes. One of the commonest is obstruction of the bile-duct—the duct leading from the liver to the intestine—by a gall-stone. Sometimes the bile itself gets so thick that it blocks up this duct. The bile may even become quite hard, and may ultimately be passed in the shape of a black, gritty powder—very like powdered cinders or coal-dust. Sometimes, curiously enough, a round-worm crawls from the bowel into the duct, and causes the mischief. It would seem at first sight that such cases must be very exceptional, but they are not so in reality. Worms appear to have a passion for wriggling into any little hole they may find about, and the mouth of the duct affords them a good opportunity of displaying this proclivity. Sometimes the lining membrane of the duct gets inflamed and swollen, and, by obstructing it, gives rise to jaundice. In certain cases the complaint may arise from organic disease, such as cancer of the liver or one of the adjacent organs. Fits of anger, of fear, or of alarm have been followed by jaundice, and it has also been produced by great bodily suffering, by a severe surgical operation, or perhaps by the dread which attended it. An instance is recorded in which an unmarried woman, on its being accidentally disclosed that she had had a child, became in a very short time quite yellow. We remember the case of a medical student who had an attack of intense jaundice which could be traced to nothing else than the excitement and worry of an examination at which he was a candidate. It is said that cases coming on thus suddenly are more serious than when the jaundice arises from a more ordinary cause, and that they sometimes prove fatal.

It has been noticed that jaundice occurs most frequently in hot weather, and it is probable that a high atmospheric temperature, long continued, exerts some influence in producing certain forms of this disorder. Jaundice occasionally comes on during pregnancy, and disappears after childbirth. The pressure of the womb may thrust other organs—a loaded intestine, for instance—against the liver, and so impede the passage of the bile. The little exercise that pregnant women take, and the costiveness that frequently attends their condition, is probably not without its influence.

Children, a few days after birth, frequently become jaundiced. It is seldom attended with any disturbance of the health, and usually passes off in a few days.

It has been supposed that this is in reality not true jaundice. The surface of an infant at birth is often enough of a deep red colour, presenting a condition which falls little short of a mild but universal bruise. By degrees the redness fades, as bruises fade, through shades of yellow into the genuine flesh colour. It need never occasion any alarm or anxiety.

How long does jaundice last? It is impossible to answer the question very definitely, as the time is so variable. It may last but only a day or two, or a month or more. In the majority of cases it is all over in a fortnight.

There is rarely any danger in jaundice. The result is nearly always favourable, except when it depends on some structural disease of the liver, or supervenes suddenly on some great mental or bodily shock. In both cases there are grounds for alarm. Intense yellowness of the skin and eyes is often more hopeful than a fainter tinge of yellow. The prognosis is not good in old people, when the constitution is impaired, and there is no obvious cause for the disease, and particularly when the colour of the skin is greenish or approaching to black.

We will now consider the treatment of jaundice. Theoretically, all treatment should be directed to the cause of the jaundice, but as practically we are often unable to find out what that is, we must be content to prescribe for the most prominent symptoms. As a rule we manage to get our patient well without much trouble.

In the first place, the diet must be restricted. There is probably complete loss of appetite, and possibly persistent vomiting. It would obviously be impolitic to load the stomach with food, which would be rejected, or would set up irritation. One of the best articles of diet in these cases is milk, and when there is much sickness or nausea, nothing else should be taken. Some people like it alone, but as a rule it is better to mix it with soda water. Half fill a soda water tumbler with milk, in which a few pieces of ice are floating, and then fill up with the soda water. Of course a considerable quantity of milk will have to be taken in the course of the day, and it should be taken at regular intervals, say every two or three hours, so as to constitute meals. Many people want brandy in the milk, but they are better without it. Lemonade cannot be substituted for the soda water, as it curdles the milk. When there is no sickness there is no objection to a few biscuits with the milk. Two or three sponge cakes with a tumbler or two of milk and soda water form by no means a bad meal, as we can testify. In some cases a rice or sago pudding may be allowed, but if there is any vomiting it is better to do without it. When even the milk and soda water is not retained, milk and lime water may be tried, one part of lime water to four of milk. If these are rejected, it must be given in very small quantities, commencing with a table-spoonful at a time, and gradually increasing the dose. As a rule in jaundice vomiting is not very troublesome, and if the diet is confined to the milk and soda water no difficulty will usually be experienced.

As jaundice nearly always depends on some form of liver disorder it is advisable to apply friction over the region of that organ. The hand should be used for the purpose, and not a towel or bath-glove, or anything of that kind. It is as well to employ some simple liniment to rub in, such as opodeldoc, although it is the rubbing that does the good. You will find it impossible to do it yourself, for the part should be steadily rubbed, with short intervals of rest for a quarter of an hour, night

and morning. In the case of a man living in rooms it is often difficult to get any one to do it, although of course when a man is married it is easy enough. There is one thing, a shampooer from the nearest Turkish bath will generally come in for half an hour when his work is done for a shilling or two. If the skin becomes tender, or if for any other reason the rubbing cannot be continued, hot fomentations may be substituted. A piece of flannel rung out of hot water, folded in the middle and covered with a rather larger piece of oil-silk or thin mackintosh will answer admirably. It should be renewed as often as it gets cold.

People with jaundice are generally very low-spirited, and often drowsy, and quite unfit for any mental work. In most cases there is no occasion for them to remain in bed. They should get up late, dress leisurely, and then go in the sitting-room and spend the day lying on the sofa covered with a rug, or sitting in an arm-chair by the fire. The great thing is to have a novel or two by your side, and drop off to sleep when you are tired. It is of no use trying to see people on business, at least unless it is very urgent; for with all that bile circulating in the system your brain is not clear enough for serious work. A man with jaundice generally feels so frightfully despondent that he is apt to think he never can get over it, and yet it nearly always comes all right in a week or two. The great thing is not to catch cold, and not to return to solid food until you are quite sure you are out of the bush.

Constipation is a very great trouble. For days and days you have no call from nature, and when you do it is agony. You spend an hour or more over that simple operation, and the motion is so hard and unyielding that it is passed with the greatest pain. Sometimes relief will be afforded by pressing with the hand on the lower part of the back. It is a good plan to take one of the sugar and grey powders (Pr. 71) every four hours. If after two or three days you obtain no relief from them, try chloride of ammonium—twenty grains every four hours. If you watch your urine day by day, and also the motions when they are passed, you will be able to tell how you are getting on, and whether the medicine is doing you good. If the urine gets lighter in colour, or if the motions get darker, you are getting better. When it is all over you will probably find it necessary to go away for a change of air, for jaundice is a thing that pulls one down, and takes away all desire for work. It may seem hard to have to go away after losing so much time in the sick-room, but there is no help for it, and it is really economy of time, for if you do not get thoroughly rid of it you are very likely to have a relapse. When once it is quite gone, and you feel well and strong again, there is no reason why it should ever come back.

If the grey powders fail to act on the bowels, and very often they do fail, take either Friedrichshall or Pullna water. Try half a tumblerful every morning, with an equal quantity of warm water. It is much better to take it tepid than cold.

Should the above mode of treatment fail, we should advise a trial of purified bile from either the ox or the pig. As it is not desirable that it should come in contact with the stomach it should be taken in capsules. These capsules are obtainable from almost any chemist. They usually contain five grains each of prepared or concentrated bile, which, roughly speaking, is equal to about a hundred grains of

liquid bile fresh from the gall-bladder. Two or three may be taken as a dose, about two hours after meals, when the stomach digestion is near completed, and the food is passing into the intestines. The capsules imbibe moisture in the stomach, and in their soft, swollen condition they probably get broken as they pass into the intestines, so that the bile is landed just where it is wanted.

Flatulence is sometimes very troublesome in jaundice. Cajeput oil, in three-drop doses, on a piece of sugar, will generally bring up the wind, but, on the whole, it is better to take something that will prevent its formation. Ten or twenty grains of wood charcoal, or a charcoal biscuit or two, will often answer this purpose admirably. Creasote—two drops in a pill every four hours—sometimes does well. A tea-spoonful of compound spirit of horse-radish in a little water, or—and this is even better—a tea-spoonful of glycerine, with a few drops of chloric ether, in a couple of table-spoonfuls of peppermint-water, often quickly relieve this symptom.

The itchiness, which is often a source of great discomfort, will sometimes be alleviated by warm baths, the use of the flesh-brush, and the internal administration of twenty grains of bicarbonate of potash, in water, three times a day. Sometimes relief is obtained from acetic acid baths—half a pint of acid to three gallons of water. A lotion of chloroform (one part), and glycerine (five parts), often succeeds admirably. Olive oil, the calomel ointment of the Pharmacopoeia, or lotions made by dissolving four grains of cyanide of mercury, or a drachm of cyanide of potassium, in a pint of water, are also useful. Whatever you do, do not get these lotions mixed up with your medicine, or take them by mistake.

For black jaundice, or malignant jaundice, as it is often called, phosphorus is the remedy. It is indicated when the skin and the whites of the eyes are of a brownish-yellow colour, when there is much prostration, with little bruise-like spots on the body, and when there is scanty, high-coloured urine. The phosphorus may be given in the form of capsules (Pr. 54), each containing $\frac{1}{30}$ of a grain, one every four hours; or from five to eight drops of the saturated solution of phosphorus in ether (Pr. 53), may be given at similar intervals, in a little milk. The phosphorous capsules are, on the whole, to be preferred.

When jaundice appears to have been suddenly engendered by moral causes, the *rationale* of its production is obscure, and the treatment is correspondingly uncertain. The jaundice of new-born infants calls for no treatment, as it causes no inconvenience, and usually passes off in a week or two. For the jaundice of pregnant women, delivery is the natural end, although it may sometimes be removed by the careful employment of aperients.

Should you send for a doctor in jaundice? It is as well to do so, although, truth to tell, you would probably get along just as well by yourself in an ordinary simple case. You are sure to feel very despondent, and it is just as well to have some one to see after you, and make sure that there is really nothing amiss. In the so-called green jaundice, and in jaundice coming on from mental causes, you should certainly have a doctor. If your jaundice lasts over a fortnight, you had better call in somebody, unless you are getting better.

JOINTS—DISEASES OF THE JOINTS.

The majority of the diseases of the joints, from their complexity and difficulty of recognition, require the attendance of a surgeon for their successful treatment. There are, however, a few of the simpler forms that may be fairly considered to fall within the province of domestic medicine. Some information on this subject, with directions for treatment, will be found in the articles on Gout and Rheumatism.

In many chronic affections of the joints the cold douche is an excellent remedy. It may be employed to remove the stiffness remaining after slight injuries or resulting from rheumatism or gout. In the earlier applications it is a good plan to play the water in the neighbourhood of the joint, rather than on the affected part itself. In some instances it is desirable to use tepid water, and in every case the part should be rubbed immediately after the application till they are warm and dry. When stiffness and pain occur in several joints nothing succeeds better than the Turkish bath, and they often succumb to this after resisting all other modes of treatment. Galvanism, too, often does good in these cases. Inunction with cod-liver oil or olive oil for five or ten minutes, night and morning, often effects great improvement, and it may succeed when other measures have failed. Constitutional treatment must not be neglected, and in many cases we have to trust to the influence of good diet and sea air, with cod-liver oil, steel wine, iron, quinine, &c. Some affections of the joints are dependent on a syphilitic taint, and then a course of iodide of potassium (Pr. 32) will do more good than anything.

In cases of stiffness arising from exertion, the part should be well rubbed with tincture of arnica, a drop or two, or a tea-spoonful of the mixture (Pr. 42) being taken internally in water every half-hour or oftener. *Rhus toxicodendron* sometimes proves useful; it does most good when the pains are accompanied by only a slight amount of swelling, and when they are intensified by warmth and motion. Three drops of the tincture may be taken in water every three hours. The internal administration of tincture of bryony (Pr. 49) is often attended with marked benefit; it is specially indicated when the pains are worse on movement. *Pulsatilla* (Pr. 43) proves useful for pains in the joints occurring in women with menstrual derangement.

KIDNEYS AND BLADDER, DISEASES OF THE.

Some of the more important diseases connected with the urinary organs have already been discussed under the heads of BRIGHT'S DISEASE, GRAVEL, and DIABETES, and further information will be found in the article on URINE. Rules for the treatment of SPERMATORRHEA were given under DEBILITY.

There are few affections of the urinary organs in which there is not more or less frequency in passing water. In many people it arises from simple nervousness or debility. In women, too, it is not unfrequently due to some irritation or displacement of the womb. In children it is common, and directions for treatment will be found under *Bed-wetting* (see DISEASES OF CHILDREN, p. 3). We must now consider what can be done in the case of adults.

For women, especially middle-aged women, who suffer from frequent desire to pass water, or inability to retain it for long, the cantharides mixture (Pr. 47) will

be found most useful. It will often give relief even when the symptoms have existed for years. Another useful remedy is tincture of nux-vomica—five or six drops in a glass of water three times a day. Its efficacy may often be increased by the addition of five drops of laudanum to each dose. Twenty drops of tincture of belladonna in a glass of water three times a day is another good prescription. The iron mixture (Pr. 1) occasionally proves successful, especially if twenty drops of liquid extract of ergot be added to each dose. In obstinate cases the gelseminum mixture (Pr. 41) may be used. A little attention to diet will often work wonders, for there may be some one special article, such as tea or coffee, which is the cause of all the trouble. It is a good plan to sleep on a hard mattress, and the bed-clothing should not be too warm. At bed-time cold sponging of the lower part of the back will often prove useful.

In cases of prolonged inability to pass water a surgeon should be sent for without delay, or there may be danger of the bladder bursting.

LOSS OF APPETITE.

Loss of appetite is known medically as “anorexia.” It is of common occurrence at the onset of many fevers, but usually it is a far more chronic complaint. Nothing is commoner in London than to hear people say that they “have gone off their feed,” they “have no appetite,” they “do not care for anything,” or that they “hate the sight of food.” It is often enough associated with a condition of debility and general inaptitude for work. It is by no means uncommon in those who are worried and anxious, and find it difficult to make both ends meet. People who devote too much attention to the brandy-bottle generally find meals rather a trouble than otherwise; breakfast, especially, is a difficulty. These individuals are generally very dainty and fanciful, and when at home grumble at everything that is set before them. They are very fond of abusing the cook for what is in reality the morbid condition of their own digestive organs. Tobacco-smokers, or, at all events, those who smoke in any quantity, are seldom great performers with the knife and fork. Tobacco and opium and alcohol seem all to have the power of deadening the appetite. People who take little or no out-door exercise generally complain that they do not eat well, and no wonder. If a man wants a good appetite, he must earn it somehow or other. Some one may give him his dinner, but if he is to enjoy it he will have to bring his own sauce in the shape of an appetite.

Irregularity of meals is another common cause of loss of appetite. The stomach appreciates regularity, and likes to have its want attended to at the proper time. It is curious how in a well-regulated body the desire for food is experienced day by day at exactly the same hour. We all know how dreadfully bad-tempered many people get if their dinner is only five minutes late. It is all very well to say that they are stupid, and should not be put out about trifles, but it must be remembered that it is no trifle to them, and that even a slight delay may give rise to a considerable amount of bodily discomfort. The stomach has been accustomed to receive supplies at certain regular intervals, and, if it fails to receive them, it objects most emphatically. Nothing is more likely to spoil the appetite than eating or drinking between meals. You hear a man complaining that he cannot eat his dinner, and you

find on inquiry that about an hour before he had three or four dozen oysters, and some bread-and-butter, and a pint of stout, "just to pull him together." It may be thought that this is an exaggeration, but it is not. We have seen it, and we wish we had not, for nothing can be more contemptible than a man who makes a deity of his stomach. We should eat to live, and not live to eat. For people who dine in the middle of the day, lunch is a great mistake.

Many people seem to think that it would be a great hardship to go without food from 8.30 A.M. to 1.0 P.M. They make a good breakfast directly they get up: ham and eggs, and all the etceteras; and then at 11.0 A.M. they go in for bread and cheese and beer, or for the more aristocratic glass of sherry and a biscuit. Somebody once said that, "lunch is a reflection on your breakfast and an insult to your dinner," and it is a pity that more people do not bear this in mind. You can never expect to have a good appetite unless you allow a good five hours to elapse between each of the chief meals of the day.

Now a word or two about some of what may be called the curiosities of appetite. Sometimes a mother brings her boy to the doctor, and says she thinks he must have worms, "he is always eating—he is never satisfied." If the boy is strong and well nourished, let him eat by all means, and do not be stupid enough to give him anything to spoil his appetite. We do not suppose he has any worms, and even if he has it does not matter very much. They will not do any harm, and it is only fair that they should have a feast once in the way. At all events, if they do give any trouble, there is never much difficulty in getting rid of them, and we will speak of the different modes adopted for their expulsion by and by. In diabetes mellitus, or sugary diabetes, there is often, as we have already seen, a most inordinate appetite. It is no joke in the case of a poor man. Sometimes they seem as if they would eat almost any quantity, and we certainly should not like to contract for them. Hysterical young ladies often exhibit the most depraved appetites; they will eat almost anything, from slate-pencil to egg-shells. Few people like cinders as an article of diet, but they really seem to enjoy them. Pregnant women occasionally exhibit these vagaries of appetite, and either have, or pretend to have, inordinate longings for particular kinds of food. It is to be feared that these fancies are often fostered by encouragement; at all events, they are less frequently heard of among the poor, who have not the means of gratifying them, than in the higher ranks of society.

What is to be done for loss of appetite? In the first place, it is essential to avoid, as far as possible, any of the circumstances we have mentioned as causes of this complaint. Be regular in your habits; get up early; do not stay out late at night; take plenty of outdoor exercise; have your bowels well open every morning; do not drink much tea; be quite sure that you are not smoking too much, and are not taking more than you ought to in the way of stimulant. It is a great thing if you can dine in cheerful, pleasant society—the example of eating seems to be almost contagious. It is astonishing what a great deal bad cookery has to answer for in the way of exciting a distaste for food. Many a man living in rooms or chambers gets to hate the sight of his dinner, simply because he is so heartily tired of those everlasting chops and steaks. The best thing he can do is to get into a good club, and have his dinner there in a civilised fashion. In London there are nowadays

so many different restaurants—English, French, German, and Italian—that if a man cannot manage to get a little variety now and then, it must be his own fault. In some places you can even have your dinner served up to the accompaniment of vocal and instrumental music, which, we suppose, is to be regarded as a stimulant to the mucous membrane of the stomach.

The practice of taking bitters before meals with the view of increasing the appetite is a common one. It is undoubtedly a bad habit, but in certain functional derangements of the stomach an occasional gin-and-bitters or sherry-and-bitters may have its advantages. We may mention, *en passant*, that the custom of taking what has been called an “epigastric spurrier,” is by no means confined to our own country. In France the oysters and chablis or sauterne with which a dinner *bien monté* is preceded, may be regarded as an institution. In Denmark and Sweden dinner is invariably prefaced by a mouthful of caviare, or salt fish, or a dram of raw spirits. In Russia dram-drinking and condiment-eating preparatory to the prandial meal, are customs very widely disseminated, and in the United States we hear that pickled oysters and small cubes of salted cod are frequently to be seen on the marble bars of their palatial hotels, although these latter are probably to be regarded less as incentives to eating than as provocatives to drinking.

Probably the drug most frequently employed with the view of stimulating the jaded appetite is quinine. Two table-spoonfuls of the tonic quinine mixture (Pr. 9) should be taken about half an hour before meals, or two table-spoonfuls of quinine wine will do equally well. The infusion of quassia may also be used for this purpose, and its efficacy is greatly enhanced by the addition of three or four drops of tincture of *nux vomica*. *Nux vomica* is one of the pleasantest bitters we know, and will often succeed admirably, even when given in plain water. Other tinctures and infusions employed for a similar purpose are those of *calumba*, *gentian*, *chirette*, and *cusparia*. These infusions should be given in two table-spoonful doses, while the dose of tinctures is a tea-spoonful in water. The tincture of *nux vomica* it will be remembered is a much more powerful drug, and the dose of this should not exceed eight drops. The different preparations of hop are useful, but are, we think, best taken in the form of bitter beer. Absinthe, or wormwood, is largely employed on the Continent. With many people, especially those who are predisposed to constipation, two or three table-spoonfuls of compound decoction of aloes, or “Baume de Vie,” will succeed better than anything. We have given a formula for a “dinner-pill” (Pr. 65), which in many cases acts admirably. For elderly people, pepsin taken in five-grain doses half an hour before meals is useful. We need hardly say that for patients who are anæmic, or suffering from what is usually called “poorness of blood,” iron is the remedy (Pr. 1 or 2).

LOSS OF VOICE (APHONIA)—HOARSENESS.

By the term “aphonia” we mean loss of voice. It may vary in degree from slight impairment to complete dumbness, and it may be temporary or permanent. It may be due to mere functional disorder or to some structural change in the

muscles and other tissues of the larynx. The functional variety is the more common, and is that to which we shall especially devote our attention. It is as a rule associated with and probably dependent on that peculiar condition which we recognise by the term *hysteria*. It occurs chiefly in women, and more especially in women in whom there is some disturbance or derangement of the functions of the womb. Sometimes the periods are deficient in quantity, but more frequently they are excessive. In some cases there is marked *anæmia* or even *chlorosis*. The patient sometimes completely loses her voice without any very apparent cause, and at others she speaks quite in a whisper, possibly for days together. In a fashionable school, where the studies were principally devoted to the so-called accomplishments, three out of the eight pupils suffered from occasional attacks of *aphonia*. In two of the cases the disease was hysterical, but in the third the affection was simply feigned, the young lady being capricious and wayward, though in good health. Galvanism, moral influence, and a course of iron cured all three patients. Such cases unfortunately are common enough, and are met with not only among the upper classes of society, but not unfrequently in the out-patient rooms of our hospitals.

In men *aphonia* has been known to result from a sudden shock to the nervous system. The case is recorded of a soldier who, in a charge of his regiment, received a severe bullet wound. He instantly and completely lost his voice, and for nearly two years was unable to articulate a word. He suddenly recovered his speech while in a state of excitement during an altercation in a public-house. In some cases *aphonia* is due to the pressure of a tumour on the nerves which govern the muscles of the larynx. It is then usually accompanied by marked shortness of breath.

There can be no difficulty in recognising the condition of which we have spoken under the term *aphonia*. It can never be confounded, even by the least observant, with that failure of articulate language which is the consequence of disease of the cerebral hemisphere—the seat of the mind.

The treatment of complete *aphonia* must, of course, vary with the cause. When it is dependent simply on some morbid condition of the larynx, the treatment recommended for relaxed sore throat and clergyman's sore throat may be resorted to with advantage. Benefit may be anticipated from the use of the astringent spray preparations. Every means must, of course, be taken to improve the condition of the general health. The direct application of galvanism to the interior of the larynx is sometimes followed by the most astonishing results. We on one occasion witnessed the instantaneous restoration of the voice by this means in a young woman who, we were assured, had not spoken a word for nearly a year.

In obstinate cases, *phytolacca* both given internally and used in the form of spray is deserving of a patient trial. The dose of the tincture is three drops every three hours, and the spray solution is made by mixing twenty-five drops with a quarter of a pint of water. Should this fail the internal administration of *phosphorus* may be tried (Pr. 53 or 54).

When there is only partial *aphonia*, and the patient is suffering from mere hoarseness, far less difficulty will be experienced in effecting a cure. In very many cases hoarseness is simply due to a cold, and the best treatment for it is the Turkish bath. When in the hot chamber the voice generally becomes quite clear and natural,

though the hoarseness may afterwards return in a slight degree. Improvement of the voice in the hot chamber may be taken as an indication that the bath has done good, even though after the bath the hoarseness returns to a great extent. In chronic cases several baths may be necessary to effect a cure.

An inhalation of sulphurous acid often proves beneficial. A few drops of the Pharmacopœia solution are added to a jug of boiling water, and the steam is gently inhaled. If carefully used, it excites hardly any irritation or annoyance. The application of the sulphurous acid may be conducted as follows:—Put a few hot cinders into a kitchen shovel, and sprinkle them from time to time with flowers of sulphur, till the room is not inconveniently filled with the smoke. The fumes of the acid are likely to act injuriously on steel or on gilt. The treatment is best conducted in an empty room.

A solution of alum, ten grains to the ounce, often proves of use when employed in the form of spray.

It has been found that a piece of borax, the size of a pea, allowed to dissolve in the mouth, restores the voice sometimes like magic, in cases of sudden hoarseness brought on by cold, and frequently, for an hour or so, renders the voice quite clear.

LUMBAGO.—(See RHEUMATISM, MUSCULAR.)

LUNGS—DISEASES OF THE LUNGS.

The diseases of the lungs most frequently met with are consumption, bronchitis, pleurisy, pneumonia, and asthma. Strictly speaking, asthma should not be regarded as a chest complaint, but as an affection of the nervous system, it being obviously more closely allied to such paroxysmal complaints as epilepsy, megrim, and angina pectoris than to bronchitis, pleurisy, and consumption. The great bulk of the patients who apply for relief at our chest hospitals are suffering either from consumption or chronic bronchitis. The form of chronic bronchitis, known as winter cough, is especially prevalent among the London poor who are much exposed to hardship and privation, and the same patients come under observation year after year, always obtaining relief, but never a cure. Only the other day an old woman informed us that for twenty-nine consecutive winters she had been an out-patient at the same hospital for her cough and breathing.

The symptoms of which patients with lung mischief most frequently complain are cough, accompanied by expectoration, shortness of breath, spitting of blood, night sweats, and loss of flesh. Sharp cutting pains in the side are of common occurrence in pleurisy and inflammation of the lungs, whilst dull aching pains under the collar-bones are not uncommon in consumption. The mere appearance of a patient will, in many instances, enable us to form some idea of the nature of his complaint. For instance, a tall, thin young man enters the room, and as he walks up to the table and we notice his want of muscular development and general feebleness, we have no difficulty in deciding that in all probability he is the subject of consumption. Following him comes a great big burly fellow, evidently a navvy, and as we mark his

shortness of breath, and listen to his paroxysmal cough, we conclude that he is probably suffering from chronic bronchitis. These are not infallible signs, but to the practised eye they are replete with meaning.

A patient's occupation or mode of life undoubtedly exert a marked influence in determining the nature of the lung disease from which he will suffer. The clerk spending his days in a dark, dull, ill-ventilated office, working in a constrained attitude with his chest-walls fixed, falls a victim to consumption, whilst the bargee or street hawker, exposed day after day to the inclemency of our climate, constantly getting wet through, without the opportunity of changing his soaking garments, contracts chronic bronchitis. Although the primary complaint made by both these patients may be the same, it will be found on entering more fully into detail that their cases are essentially different. Both, for instance, complain of cough. The consumptive tells us that he has a nasty dry hacking cough that keeps him awake at night, and this came on so gradually that he can hardly say when it began, but he is positive he has had it for only a few months. The patient with winter cough tells a very different story; he has had his cough every winter for years; it is an old business with him—he has been to every doctor and hospital in London, and says he does not expect to be cured, and all he wants is something to ease the cough and stop the shortness of breath which makes him "wheeze like a broken-winded horse."

In the early stage of consumption there is often little or no expectoration, but the winter cough man on the contrary is always spitting up "a lot of phlegm," "thick, yellow, nasty-looking stuff," "all black from the fog." The consumptive not unfrequently spits blood, although this is not to be regarded as a constant symptom. We have known cases in which the disease has run its course from first to last without the appearance of a single drop of blood. In chronic bronchitis there is never any real spitting of blood, although after a violent bout of coughing, such as the patient often gets the first thing in the morning, there are not unfrequently streaks of blood in the expectoration. This often alarms people very much, but quite unnecessarily, for it is no indication of the existence of consumption, and simply shows that the paroxysm of cough has been more violent or more prolonged than usual. Many doctors make it a rule never to regard anything as spitting of blood unless it amounts to a tea-spoonful at a time. There is often a little oozing of blood from the gums, or perhaps from some trifling abrasion of the throat, and to a superficial observer, or to a hypochondriac, this might readily be magnified into an attack of blood-spitting. Hence the necessity, when any one tells you that he has been spitting blood, of ascertaining the precise quantity that has been expectorated. Then, as to shortness of breath. This is usually a far more prominent symptom in chronic bronchitis than in consumption. The consumptive complains of weakness and debility, but is not conscious of any shortness of breath, at all events in the early stages. In winter cough, on the other hand, shortness of breath is always a prominent symptom, and is often so marked that the patient cannot walk across the room without puffing and blowing, whilst getting up-stairs is almost a morning's work. Loss of flesh occurs more frequently in consumption than in other lung affections. In chronic bronchitis, it is true, there is usually some loss of flesh in the winter, but the patient quickly regains it when the summer comes

again; and there is no progressive loss as there is in consumption. Mere variation in weight is never of much consequence, a gain to-day and a loss to-morrow, but progressive loss of weight going on steadily for weeks or months is a bad sign, unless it can be accounted for by some change in habit or mode of living. In the lung diseases which run an acute course, such as pleurisy and pneumonia, there is a loss of weight corresponding to the amount of fever, just as there is in scarlatina, measles, or small-pox, but this is rapidly regained on the establishment of convalescence, and is no evidence of the existence of consumption. Night sweating, one of the most distressing and exhausting symptoms of consumption, is seldom met with in other chronic lung affections. We have often asked the winter cough patients if they suffer from perspiration at night, but the reply is nearly always in the negative; they tell us that, on the contrary, the skin "will not act," and they never can get in a perspiration, though they wish they could, for they think it would do them good.

We have already had occasion to refer incidentally to the influence of occupation in the development of chest diseases, but we have no hesitation in returning to the subject, seeing that a knowledge of certain facts connected with it may have considerable weight in the selection of an occupation for a boy coming of a consumptive stock. It is a curious fact that although a man may be fully aware that his trade is an unhealthy one, and that the work has gradually undermined his constitution, he generally ends by bringing his children up to it. Open-air occupations are of all the most suitable for those threatened with lung disease. First and foremost stands agriculture, which is recommendable for the exposure to pure air which it implies, for the abundant exercise it involves, and for the simple hours, habits, diet, and amusements which of necessity accompany it. There is no temptation to indulge in excesses of any kind; there are not the enticing surroundings of city dissipation, and the excitement of professional business; political or fashionable life is not at hand to urge the feeble to join in a race in which the strong are the winners, and the weak drop behind strained and shaken by the conflict. Whether, therefore, this country life implies being a landed proprietor, living on and exercising the duties of his estate; a farmer subsisting by the daily superintendence of his work; a labourer doing the drudgery of toil, and earning his daily bread literally by the sweat of his brow; or a shepherd in one of our rising colonies, it is preferable to the largest independence in a city. As a recent writer on consumption says: "Let those who have money and to whom there exists no necessity for increasing their means, visit the interesting and beautiful parts of their own country. Let them go abroad and see what is new in institutions, wonderful in natural phenomena, grand in nature, and worthy of study in art. A long and healthy sea-voyage may convey them in renewed vigour to the calm and even climates of Tasmania or New Zealand, or the more bracing air of South Australia. Here let them live on horseback and enjoy all that is new and exciting in these younger nations of the earth. The extremes of climate are not forbidden them, and a winter in Canada, or a summer in Norway, may lend them new vigour. In the pure and invigorating air of the upper regions of Mexico, Oregon, or Peru, in the exciting atmosphere of the Cape, are to be found, it is said, fresh

pleasures to the senses, and stimulants to the nervous and muscular powers, such as must be experienced to be described. But man can bear and even profit by all extremes. The relaxing influence of Grecian or Roman plains, or of Egypt, the fresh, dry, and calm desert air, the life passed in tents, are spoken of by travellers as giving new vigour, from the healthy tone which is imparted to the nervous and muscular powers. We have all met with men who have done much of this—cultivated men, and not mere idlers—wanderers of necessity and of liking, who have fought off the inherited taint, and who have lived to old age, hardy and vigorous, and “temperate in all things.” And this, which need not be an altogether selfish existence, but may include many to help and much that is useful to do, is one of the high and pure enjoyments which, in certain cases, money is permitted to purchase.” This may appear almost utopian, but it must be remembered that consumption is the heritage of the rich as well as of the poor, and to many such a mode of life would be quite possible. Every man can bring his children up to an out-door occupation of some kind, provided only that he can make up his mind to sacrifice something; and he should remember that he can make no greater sacrifice than that of health. In any particular case it is no easy matter to select the climate which possesses the greatest advantages and the fewest drawbacks. There is no model climate, and no country can boast of being perfect. In making the selection attention must be paid to the sick man's general condition, and to the amount of constitutional strength. Then as regards the locality attention must be paid to its aspect, its drainage, its elevation above the sea level; to the temperature and its equability; to the dryness or moisture of the soil and atmosphere, a degree of heat being often well borne when the air is dry, which is quite unbearable when it is moist, and to the nature of the prevailing winds. The amount of rain which descends in a season is not of such moment as the way in which it usually falls, a region liable to sharp heavy showers being much more favourable for the individual than one where it drizzles—like a Scotch mist—for days together. A clay soil should be avoided; get on gravel if possible. Luxuriant vegetation is not always a recommendation, for often enough it means high temperature combined with moisture, conditions not favourable for the consumptive. Districts where marshy lands abound, or where occasional inundations occur, are notoriously unhealthy, for the evaporation of the water lowers the temperature, whilst the decaying vegetable matter may set up ague.

The best time for leaving England is between the end of September and the middle of October, and a patient suffering from chest disease should not return till the beginning of May. He must remember that in going abroad he is merely placing himself under the conditions most favourable for recovery, and that he is not justified in abandoning other remedial measures. He must not lose sight of the fact that he is still an invalid, and must be careful not to run to excess in the matter of sight-seeing. For a sick man to visit picture galleries, museums, damp old ruins, and cold churches, is often to frustrate the only object he should have in view, the restoration of his health. In even apparently hopeless cases, a visit to another part of the sufferer's country, or to some foreign station, will now and then ward off complications, give mental exhilaration, promote appetite and digestion, and insure tranquil nights.

It is a curious fact that butchers are almost exempt from consumption. If we remember that their shops are airy and open, that they are abundantly fed on animal food, and that from early morning they are rapidly driving about in the open air, taking much exercise and living well, we shall be able to understand the influences which prevent the access of chest affections. These conditions of open-air exercise and high feeding are in fact antagonistic to consumption. It must not be supposed that we are urging all threatened consumptives to become butchers, but their mode of life might be imitated with advantage.

Dust is one of the commonest causes of lung mischief. In many cases it is not the only exciting cause, but often it is the chief and most deadly of several deleterious influences to which workmen are exposed. The mortality amongst those employed in many dusty occupations is simply enormous. We are told few men who enter certain rooms in cotton factories ever live to attain to the age of thirty-eight. Out of twenty-seven men in a certain flax factory, twenty-three had some form of chest disease. The noxious influence of varnishes, turpentine, and drying oils in developing consumption is well known. Chest affections are by no means unfrequent among artisans who use solder, such for instance as tinmen, coppersmiths, and goldsmiths. Wood-turners, and those whose work necessitates the use of sand-paper, are usually great sufferers. Many plans have been devised for preventing the entrance of dust into the air-passages, and some are very simple and worthy of adoption. The practice of wearing a respirator, or a veil over the mouth and nostrils, with the growth of the beard and moustache, may be cited as examples. The objection usually made to the respirator is the expense, but one made of cork can be obtained from the chemist's for a shilling. The midday meal should never be taken in the work-shop, and the hands should be washed before going out to dinner. These may seem little matters, but only those who have workmen for patients know how constantly they are neglected. In dusty occupations the pores of the skin get blocked up by the dirt, and it then ceases to perform its functions. Normally it acts as a direct purifier of the blood, being associated with the kidneys and lungs in this office.

Among the conditions favouring the development of chest disease, there are none more certain than depressing passions, especially when profound or of continual occurrence, and this perhaps is one of the causes of the greater prevalence of these complaints in large towns, where bad habits and bad conduct are more common, and are so frequently the cause of those bitter regrets which neither time nor consolation can assuage. Some years ago there existed in Paris a nunnery of a new foundation, which had not been able to obtain from the ecclesiastical authorities anything but a temporary tolerance, on account of the severity of its rules. The alimentary regimen of the inmates, although extremely severe, was still not beyond the bounds of nature; but the spirit of the rules of the nunnery, directing the mind to the most terrible rather than to the consoling truths of religion, as well as compelling the inmates to resign themselves in everything to the will of the abbess, produced effects as sad as unexpected. These effects were the same in all. At the end of two months' sojourn in this house, the menses became suppressed, and in a

month or two afterwards symptoms of threatening consumption appeared. As the nuns had not taken the usual vows, some of them were advised to leave the house, and all who did so recovered. But during the ten years that followed the opening of this establishment, the numbers were renewed twice or thrice; with the exception of the superior, the gatekeeper, the sisters who had the care of the garden, of the kitchen, and of the infirmary, and of such as had more frequent intercourse with the city, and consequently greater distraction. The rest died of consumption.

It is a point worth noting that the subjects of consumption have in a large number of cases had peculiarities of likes and dislikes for different articles of food, even from very early life, and whilst seemingly in perfect health. Among these peculiarities, the dislike for fat is at once the most prominent and the most important. Thus, it may be predicted of a family in which one child distinguishes itself from its brothers and sisters by constant refusal to eat fat, that such a child is more likely to fall into a decline in after life than any of the others. In people who are actually consumptive, this dislike for fat is in many cases very marked. The fat of fresh meat is generally the first to disagree, then salted meats, such as bacon, and lastly butter. In exceptional cases, this distaste extends to sugar, and even to alcohol.

There is a prevalent opinion among all classes of society that in young women marriage tends to ward off or even cure consumption, but there is in reality nothing to favour this view. On the contrary, the existence of any symptom of consumption should be regarded as a distinct bar to marriage. To those exhibiting any such tendency, suckling must be considered prejudicial to a degree. It may be laid down as a rule that mothers already in consumption, or threatened with that affection, should on no account nurse. The infant must be provided with a wet nurse, should the mother be delicate, and care should be taken to select for this office a woman free from all suspicion of lung mischief, either hereditary or acquired. Suckling is to the weak and delicate a certain source of ill-health, and is a ready mode of developing chest disease, while the child is sure to be imperfectly nourished. Moreover, it draws with the supply from its mother's breast an additional element of danger to that which results from its parentage. Children of consumptive parents should be brought up on milk, diluted, if necessary, with water, alone, the admixture of other matters before the teeth are cut being fraught with danger. A plentiful supply of fresh air is highly necessary, or the infant will be peculiarly liable to attacks of bronchitis. The risk is in staying in the house, and not in going out of it. Daily bathing is a valuable habit. At first the bath is to be tepid, but very soon it may be taken almost cold. The best method is simple and rapid immersion, which is to be preferred to the slower process of sponging, the object being to obtain a quick reaction. As the child gets older, open air exercise is to be sedulously cultivated. It must be remembered that there is no possibility of safety without it. No plea for education, no false theories about catching cold, are to be allowed to stand in the way of it. Sedentary occupations and close rooms sow the seeds of death where there is a predisposition to lung affections.

The subject of the proper ventilation of the sleeping-room is one of primary

importance to the weak and debilitated, for by many eminent authorities it is considered that the presence of an unduly large proportion of carbonic acid in the air is one of the chief causes of consumption. It is known that if one per cent. of carbonic acid exist in a room the air is unfit for a healthy person, and it must obviously be much more so for any one with a tendency to chest disease. A single room should never perform the two offices of bed-room and sitting-room. The temperature should be kept pretty uniformly at from fifty-five to fifty-six degrees. In some hospitals for consumption it is much higher, but we cannot help regarding this as a mistake, for the wards get stuffy and the patient weak and languid. There is too great a tendency to regard consumption as a hothouse plant. An abundant supply of light and fresh air would be much more to the purpose. In winter there should be a fire in the bedroom—lighted some hours before bed-time; and it is a good plan to have a Louvre ventilator, two feet square, in the door, with access of fresh air from an open window on the adjoining staircase. This should be open day and night, but it may be partly closed in severe cold weather in winter. This method of always obtaining fresh air by an open window has many advantages, one of the chief being that the air so entering is obtained from the upper strata, and not from a level with the street. Moreover, a fire in an open fireplace is one of the best of ventilators. In summer when no fire is necessary, the bedroom window should be left open for a couple of inches at the top. Even children run no risk of catching cold provided only that they have plenty of bedclothes. The importance of early accustoming those with weak chests to sleep in fresh air cannot be over-estimated.

In cases where there is a tendency to consumption but yet no actual disease of the lungs, any exercise which will develop the chest muscles will prove highly beneficial. Walking, which implies a certain activity of the arms, undoubtedly does good, but still it hardly brings the right muscles into play. When we speak of walking we of course mean sharp walking, for those funeral processions in which girls at school are forced to take part are in no sense of the word exercise. A carefully selected system of gymnastics is more likely to do good, and one of the best things a young man can do is to go to a gymnasium for an hour or two daily and get himself put through a regular course of training. He cannot well do it for himself, but should have some one to guide and instruct him. If the gymnasium is out of doors so much the better; at all events, it should be thoroughly ventilated. Should the season of the year or the weather not permit of out-door amusements, dumb-bells at home or some well-contrived apparatus for arm and back should be daily used in the house, and with open windows. Boxing is capital exercise for boys. Rowing, running, and riding, if not carried to excess, will do much to expand the chest. Even in advanced consumption horse exercise may be taken with advantage. For families who are fortunate enough to live near a river or lake, there is nothing for the girls better than rowing a light boat or sculling. It expands the chest, throws back the shoulders, and straightens the back. Many a sculpturesque figure will acknowledge her debt to her boat for her beauty. A few weeks' instruction in swimming will take away all sense of danger from the amusement. Under a judicious system of training an undeveloped man, even though he may be feeble, narrow-chested, and sickly, may become active, full-chested,

and healthy. We find many examples of this metamorphosis among the boys in our training-ships for seamen. The over-fed, short-winded pugilist, rower, or cricketer, may in a few weeks be changed by training alone to the firm-fleshed, clear-skinned, long-winded winner of the fight, the foot-race, or the rowing-match. It is quite within our power to direct the physical training of young persons so that the apparently sickly and short-winded may in time be developed into the wiry, active young man, long in the wind, sound in body, and lithe of limb; but this result can be attained only by judicious feeding, careful exercise, throughout the whole course of the development of the body, and by the gradual nursing of the breathing powers. For feeble people the first attempt at exercise may be made at home by reading aloud, singing, and the practice of sustaining a note preceded by a deep inspiration, and of course followed by one. Taking a good deep breath so as to thoroughly expand the chest is highly beneficial to those who are weak on the lungs, or who come of a consumptive stock. It is not by any means to be considered a substitute for out-door exercise, although it is a valuable adjunct. Playing wind instruments often does more harm than good, for it tends to induce congestion of the lungs, and not unfrequently gives rise to a blood-spitting. Smoking, except in the strictest moderation, is likely to prove injurious.

The great advantage of out-door exercise is that it increases the appetite, and it is far better that the assimilating processes should be quickened in this way than by the use of tonics or other artificial provocatives. A great point in the treatment of the weak-chested is to get them to take plenty of nutritive material in an easily assimilated form. Bread with milk, eggs, and fresh meat twice a day, with a due admixture of vegetables, will constitute the ordinary diet. In many cases large quantities of milk may be given with decided advantage. Most people can take two or three pints without trouble, but in exceptional cases twice or three times that quantity may be consumed within the twenty-four hours with benefit. Should it seem cold and heavy on the chest it may be taken tepid. Some people, although they cannot assimilate milk alone, digest it without the slightest trouble if diluted with an equal quantity of soda water or lime water. There is no objection to the addition of a tea-spoonful or even a table-spoonful of rum or brandy to the tumblerful of milk, as an occasional relish, but we must be careful not to run to excess in the matter of stimulants, especially with young people. The habitual use of stimulants should be avoided by those with a tendency to weakness of the chest. For the general improvement of nutrition their effects are too evanescent, and the resulting reaction too debilitating.

Mental over-work is a frequent cause of deterioration of the health, and this condition is by no means confined to those in advanced or middle life. It is by no means uncommon in schoolboys. It is even said to occur in babies whose precocious intellects have been unduly stimulated by an injudicious parent or ignorant nurse. When a boy is over-worked, one of the earliest symptoms is sick-headache, nervousness, and a disinclination or unwillingness to take part in the games of his school-fellows. He not only finds a difficulty in concentrating his attention, but learns his lessons unwillingly; the attempts to do so being not only very irksome, but invariably bringing on the headache. A vacant stare is often seen upon his face, and

the bright look of boyish glee has given way to one of worry and anxiety. Melancholy often accompanies his failures as he and his friends become cognisant of the change that has taken place. The boy is generally better at night after food, and at early morning after sleep, but is especially stolid at intermediate times. These cases, if not looked to, often end in a general break-down with the development of some chest affection.

The education of threatened consumptives should be physical rather than mental. Accomplishments are all very well in their way, but they are not much without health. A fair amount of study is undoubtedly advisable, but the weakly youth should be encouraged to pass his time out-doors in the fresh air, rather than in the school-room or study. An hour's gallop will do him more good than a page of Euclid. Boys coming of consumptive parents should not, as a rule, be permitted to go in for competitive examinations. There is a growing opinion amongst medical men that the competitive system is, in a large number of cases, productive of the most serious injury to the bodily health. We know that for the real struggle of life vigorous health is of even more importance than intellect. How many have attained eminence simply because, in addition to a certain amount of industry, they are blessed with "the constitution of a horse?" and how many feeble ones have been swept away to make room for the present occupants of our first positions at the Bar, in political life, in administrative appointments, and in medicine?

People with weak chests often anxiously inquire whether their weight is what it should be at their age. This is, undoubtedly, a point worth investigating, and we append a table showing the average height and weight of the human body between the ages of eighteen and thirty.

TABLE SHOWING THE GROWTH OF THE HUMAN BODY FROM 18 TO 30 YEARS OF AGE AS INDICATED BY HEIGHT AND WEIGHT.

Age.		Height.		Weight.		Age.		Height.		Weight.	
Years.	Ft.	Ins.	St.	lb.	Years.	Ft.	Ins.	St.	lb.		
18	5	4	8	10	25	5	6	10	5		
19	5	4	9	4	26	5	6	10	1		
20	5	5	9	5	27	5	6	10	4		
21	5	5	9	5	28	5	6	10	2		
22	5	6	9	12	29	5	7	10	5		
23	5	6	10	2	30	5	6	10	1		
24	5	5	10	2							

Growth expressed by stature and height is most marked between the ages of fourteen and sixteen. Its rate is as much as three inches in height during that time, and about ten inches from the age of eleven to eighteen. From eighteen to twenty-five it is usually about two inches.

Persons of spare habit and a temperate mode of life are able to sustain fatigue, and to make prolonged exertions which the more robust and fleshy often find it impossible to undergo. Moreover, thin people bear loss of weight, even of rapid occurrence, with comparative impunity, whilst on the other hand the corpulent and flabby

are thrown into immediate peril by disease involving reduction, such, for example, as acute inflammations, and severe mechanical injuries, necessitating a restricted diet for their treatment. Thin people often make a mistake in trying to get fat.

We have no intention of entering into the treatment of lung diseases, for full directions will be found under the individual complaints (*see* CONSUMPTION, BRONCHITIS, PLEURISY, &c.). We may, however, mention that cod-liver oil may nearly always be used with advantage in chronic cases. We rarely fail to induce a patient to take it in some form or other. Some people like it best in milk; others cover the taste by eating a piece of red herring, or anchovy, or sardine before or after the dose. A very good plan is to add to every two tea-spoonfuls of the oil from ten to twenty drops of ether. The pure ether of the British Pharmacopœia must be used, so that the oil may not be rendered muddy, as it would be if the ether contained spirit or water. This combination is indicated whenever there is an inability to take the oil in the usual way. It makes an emulsion, and fat or oil when emulsified is more easily digested than in any other form. A stomach once intolerant of fat will good-naturedly accept full doses of cod-liver oil if combined with ether. Many doctors maintain that the administration of tincture of pulsatilla, in small doses, will enable their patients to digest fat in any form. It is very desirable that the oil should be the best of its sort, that is, as free from smell, taste, and colour as possible, showing its careful and recent preparation. It is not a bad plan, where there is likely to be a large consumption of cod-liver oil, to have a barrel over from Newfoundland. We have known this done in several cases. Many large firms do it for the benefit of their employes. In cases where there is an insurmountable objection to the oil, some substitute may be found. It is a capital plan to take a pint of milk, *warm from the cow*, several times a day. It is so prescribed in order that the cream may not be removed by skimming, but the entire milk obtained. Milks rich in fatty matter, such as asses' milk and milk drawn from the cows at a short interval after the greater part of their milk has been withdrawn, and known as the "droppings" or "after-cup," are found to be beneficial. The same may be said of cream, Devonshire cream, and butter. There are many ways in which butter can be taken without upsetting the stomach. Haricot beans or lentils will soak up an enormous amount of butter, as every cook knows, and they form a very convenient mode of administering fat. Baked potatoes may be used, too, for the same purpose. Success has in many cases attended the use of caviar, fat bacon, and the marrow of bones. Oysters are especially nutritious. The following somewhat old-fashioned remedy may be found useful as an article of diet and adjunct to other treatment:—"Take of linseed, half an ounce; fine bran, one ounce; water, one quart. Boil these for two hours and strain; then add beef, mutton, or any other meat that may be fancied, to the amount of one pound, and boil to a soup with vegetables, to which celery-seed or other flavouring may be added. The whole quantity ought to be reduced by one-third." The following is not to be despised:—"Take six eggs, which must be quite new-laid, wipe them with a damp cloth and put them in a large basin. Now squeeze over them the juice of seven lemons. Soon little bubbles of gas appear in the fluid indicating that the acid is acting on the shells. Continue the maceration till the shells are quite dissolved—this may take two or three days—then beat up the eggs with a pint of

the oldest Jamaica rum, strain through muslin, and add a quarter of a pound of sugar-candy. A table-spoonful to be taken two or three times a day. Port wine jelly sometimes proves useful, and is an excellent remedy for any little hacking cough. It is made as follows:—Put into a jar a pint of port wine, two ounces of gum arabic, two ounces of powdered white sugar-candy, a quarter of a nutmeg grated fine, and a small piece of cinnamon. Let this stand closely covered all night. The next day put the jar into boiling water and let it simmer till all is dissolved, then strain it; let it stand till cold, cut it and take a small piece occasionally. Sometimes it is a little tough, not to say leathery, but this may be obviated by using rather less gum and isinglass. In some instances good results have been obtained from neat's-foot oil—the oil that is obtained from the foot of the young heifer. Pancreatic emulsion undoubtedly succeeds admirably in some cases, as we can testify: a tea-spoonful being taken twice a day an hour after a full meal, in a tumbler of milk, to which a table-spoonful of brandy or rum may be added. The only objection to it is that it is costly. Lard may be made into an emulsion, and we are not at all sure that it would not succeed equally well. These remedies may be given either in consumption or chronic bronchitis; in fact, in any long-standing chest complaint. The benefit derived from cod-liver oil in consumption is generally recognised, but the fact that it does almost as much good in winter cough is not so generally known. It is an error to suppose that cod-liver oil is good only for young people, for it answers admirably for those advanced in years. We have given it to octogenarians and nonagenarians with marked benefit. Infants can seldom take cod-liver oil. It usually disagrees before the ninth month, and often until the child has attained the age of one year. In these young children it is an excellent plan to rub the body all over with pure olive oil night and morning before the fire; it will be found that absorption takes place more readily when the child has just been taken out of its bath and then wiped dry. Rubbing the skin hard is an excellent tonic, and is useful for the relief of many of the local conditions of discomfort, pain, and distress, for which the

patient most frequently applies to the physician.

In many chest affections, especially bronchitis and

inflammation of the lungs, it is desirable to keep the air of the room moist. An ordinary kettle placed on the fire may accomplish this purpose, but often the draught up the chimney carries all the vapour with it. A piece of tin tubing fixed on to the spout, so as to project beyond the fireplace, will obviate this difficulty. Some people use a "bronchitis kettle," in which a long spout is fixed into the lid. Its shape will be seen in the



Fig. 7.—BRONCHITIS KETTLE.

accompanying figure. It might be knocked together by any tinman for a few shillings, or the lid and spout might be fitted to any kettle in ordinary use. Siegle's steam spray apparatus (Fig. 2) is useful for moistening the air of the room, and has this advantage, that it may be placed near the bedside.

LUNGS—INFLAMMATION OF THE LUNGS.

Inflammation of the lungs is known technically as pneumonia. In this disease the substance of the lung itself is in a state of inflammation; in bronchitis it is the air passages that are inflamed; whilst in pleurisy the inflammation attacks the pleura or membrane covering the lung. In acute pneumonia the fever runs as high, and the whole course of the disease is as abrupt as in many of the eruptive fevers. As a rule pneumonia attacks only one lung, the lower part or base being primarily involved. Occasionally there is inflammation of both lungs, and then we speak of it as being a case of double pneumonia. When pleurisy and pneumonia co-exist, as they often do, the complaint is known as pleuro-pneumonia.

A consideration of the causes of pneumonia may help to throw some light upon its nature and the place it should occupy in the classification of diseases. It is more frequently met with in climates presenting marked and rapid variations of temperature than in those characterised by extremes of heat or cold. Thus in tropical regions it is uncommon during the continued hot seasons, and on the other hand in some of the expeditions to the North Pole, the complaint has been almost unknown. It is said also to be very rare in Iceland. In Egypt, too, it is rare, though bronchitis is common in the valley of the Nile. There is a general opinion that pneumonia is of more frequent occurrence among the labouring than in the wealthier classes of society, and that among the former those whose occupations involve the severest exertion and the greatest amount of exposure are most likely to suffer. In the army the soldiers are more frequently attacked than the officers. The greatest number of cases occur, as might be supposed, during those months of the year in which there are the greatest vicissitudes of temperature, notably in the months of April and May. Pneumonia attacks both the young and the old, and it is unquestionably a common disease of early life. Men suffer very much more frequently than women, and this is easily accounted for by their increased exposure to climatic and other injurious influences. Opinion differs as to whether pneumonia is more likely to attack the vigorous or those previously in bad health. It must be remembered that the robust are more likely to be exposed to the weather and to changeable climates and temperatures, for the weak and delicate stop at home and take care of themselves. It has been noticed that some people are liable to repeated attacks of inflammation of the lungs—a peculiarity which may be due either to some special but unknown constitutional predisposition, or to the fact that previous attacks induce a proclivity to their return. The latter hypothesis is probably the true one. The most frequent exciting or immediate cause of pneumonia is cold, in some form or other, and in many cases the attack can be distinctly traced to getting wet through, sitting in a draught when heated, or some similar influence. Boys get heated playing football or by some other violent exercise, and then throw themselves down on the grass to get cool, and often enough the result is an attack of inflammation of the lungs. This is more likely to occur, the body being exhausted by the previous exercise. Excessive exertion seems to act as an occasional cause. In many instances pneumonia has been produced by things “going the wrong way” and getting into the lungs in eating or drinking. Inflammation of the lungs is not

unlikely to be set up in the course of other diseases, and it is a complication for which we must always be on the look-out. In Bright's disease, for example, it is not of unfrequent occurrence.

Pneumonia is commonly ushered in by restlessness with general febrile disturbance. At the end of from one to three days there are rigors, soon followed by nausea, cough, pain in the side, distressed breathing, a pulse reaching 140 or even 160 beats in the minute, burning heat of the skin, thirst, loss of appetite, prostration, headache, and sometimes even transient delirium. Not unfrequently the patient describes the succession of his symptoms as shivering, fever, cough, and breathlessness.

The onset of pneumonia is most commonly marked by rigors, which are usually severe, their frequency and intensity being greater in this than in almost any other disease. Pain in the side appears to exist only in those cases in which the inflammation of the lung is accompanied by some degree of pleurisy. This, however, is of frequent occurrence, the pain being commonly felt on a level with or a little below one or other breast, but it may be experienced in almost any other part of the chest. Generally it is most severe at the beginning, and declines by degrees, ceasing altogether for some time before the pneumonia terminates. It is aggravated by cough, by a deep breath, and often by sudden changes in posture, or by pressure made on the ribs. Shortness of breath is also of constant occurrence, although it varies greatly in degree. Sometimes it is so slight that the patient is not conscious of it, and even the physician scarcely perceives it. Sometimes it is so extreme that the patient, entirely regardless of what is going on about him, seems wholly occupied with respiring, is unable to lie down, and what with the shortness of breath, cough, and pain in the side, can scarcely speak. The number of respirations in a minute is seldom less than thirty, often thirty-five to forty, and they may even reach sixty or seventy. The cough, which is one of the earliest symptoms, is short and hacking, and rarely comes on in paroxysms. It is usually dry at the outset, but in a few hours is accompanied by a peculiar expectoration, which constitutes one of the most certain indications of the presence of pneumonia. The expectoration consists of transparent and tawny or rust-coloured sputa, uniting in the vessel containing it into a jelly-like and trembling mass of such viscosity that the spittoon may be turned upside down and shaken without spilling its contents. This characteristic appearance may perhaps not be noticed for the first day or two, but it is almost always present at some period in the course of the disease. One of the most marked features of pneumonia, and one that will often suffice to distinguish it from other complaints, is the sudden and considerable rise of temperature which marks its invasion, and is usually maintained until the occurrence of the crisis. It is not uncommon for the thermometer to mark a temperature of 103 or 104 degrees within a few hours of the first feeling of illness.

In the majority of cases pneumonia ends in complete recovery. Usually a marked crisis takes place, the temperature falling rapidly to the normal, while the pulse and respiration diminish in frequency and the other symptoms abate, convalescence being soon established. This happens usually from the third to the eleventh day, most commonly about the end of the first week. It is often marked

by profuse perspiration or an abundant discharge of urine, and occasionally by diarrhœa, bleeding from the nose, or the development of a skin eruption.

The symptoms we have enumerated will, we trust, enable our readers to recognise the nature of the affection. This is a disease in which the attendance of a medical man is very necessary. It is always serious, especially in the very young, and those advanced in life. Other circumstances which increase the danger are the fact of the patient being a woman, the occurrence of pregnancy, the existence of debility from any cause, previous habits of intemperance, or previous disease of the heart, lungs, or kidneys.

When it is really impossible to obtain medical advice, the following hints as to treatment may prove of service. In the first place, the patient must be confined to bed. A fire should be kept burning night and day, even in summer. It is a good plan to have a kettle of water on the hob, the steam from which will serve to maintain the air at a proper degree of moisture. The window or windows should be opened for an inch or two at the top, to insure proper ventilation, although care should be taken to avoid draughts. The bed-coverings should be light, and the patient should be well wrapped up, if, from any cause, it is necessary to get out of bed. With the prevalence of a high temperature it is of little or no use trying to give solid food. The diet should consist chiefly of milk, of which from two to three pints, or even more, should be given in the course of the day. Many people find that milk is not only more palatable, but is more readily digested, if flavoured with just a dash of brandy, although anything like excess in the administration of stimulants is to be avoided. It is not a bad plan to dilute the milk with an equal quantity of lime water or soda water. There is no objection to a sponge cake or two, or a few biscuits. Beef tea may be taken once or twice a day, although it is less nutritious than is generally supposed. Should the bowels be confined, a simple aperient, such as castor oil, may be given, but it is well to avoid anything like active purgation. Large linseed-meal poultices applied over the chest and back, and renewed every two hours, or as often as they get cold, prove very grateful. Moderate quantities of wine, or brandy, somewhat in accordance with the patient's ordinary habits, may be given, should signs of weakness become apparent. Ice to suck, and frequent sips of cold water, are useful in allaying thirst.

In quite the early stage, aconite is useful in this as in so many other febrile diseases. A drop of the tincture should be given every ten minutes for the first hour, and subsequently hourly for ten or twelve hours; or Pr. 38 may be employed. It is most suitable for the first invasion of the cold when feverish symptoms, restlessness, *malaise*, pain between the shoulders or in the chest, and short cough are the prominent symptoms. A little later, or when the symptoms are more severe, phosphorus is preferred by many. It is considered to be of most value when there are signs of exhaustion. A saturated solution of phosphorus in ether (Pr. 53) may be used, and of this a drop or half a drop may be given every hour for ten or twelve hours. It is not unfrequently administered alternately with aconite—first a dose of one, and then of the other. When the symptoms point to pleurisy as well as pneumonia, bryony

(Pr. 49) proves useful. Dry cough, with little expectoration and stitching or catching pains in the chest, are generally considered to be indications for its administration. Of late years antimony has been much employed in pneumonia, and respecting its value there appears to be a general concurrence of opinion. In many cases, under the influence of this drug, the pain in the side gives way, the expectoration, from being characteristic of pneumonia, changes to that met with in bronchitis; the pulse and breathing are reduced in frequency, and the further spread of the inflammation is checked. To be of much service, it should be given quite at the commencement of the disease, and it is essential that the dose should be small and frequently repeated. A grain of tartarated antimony (tartar emetic) should be dissolved in half a pint of water, and of this one or two tea-spoonfuls should be given every ten minutes or quarter of an hour for the first hour, and afterwards hourly (Pr. 46). Should nausea or sickness be induced, the dose must be lessened. Antimony wine, given in doses of two or three drops in a tea-spoonful of water, will succeed equally well. These are both pharmacopœial preparations, and may be obtained without difficulty.

We can only conclude with the recommendation to obtain medical assistance whenever possible.

MEASLES.—(See DISEASES OF CHILDREN, p. 25.)

MEGRIM, OR SICK-HEADACHE.

When speaking of headache generally, we pointed out that this especial form was of such importance as to merit a separate and more detailed consideration. There are several varieties of megrim—or migraine, as the French call it—which are known as hemicrania, blind-headache, and bilious-headache. We cannot convey a better idea of the general features of this distressing complaint than by giving an example. An eminent French physiologist and man of science has recorded his own case, which affords a good illustration of one of the simpler forms of migraine. He tells, that since about his twentieth year, though otherwise in good health, he has suffered from this complaint. Every three or four weeks he has an attack coming on, for the most part in consequence of some unhealthy influence, such as long and fatiguing evening entertainments, and so on. As a rule some constipation precedes it. The next morning he awakes with a general feeling of disorder, and a slight pain in the region of the right temple, which, without overstepping the middle line, gradually extends itself, reaching its greatest intensity at mid-day; towards evening it gradually passes off. While at rest the pain is tolerable, but it is increased by movement to an extreme degree, and it is aggravated by stooping or coughing. The countenance is pale and sunken, and the right eye small and reddened. At the height of the attack, when it is a violent one, there is nausea, but it rarely culminates in vomiting. As the fit approaches its termination the right ear reddens and becomes very hot. Sleep often shortens the attack, which leaves behind it slight stomach disturbance; frequently also the scalp remains tender at one spot the following morning. For a certain period after a seizure he

can expose himself with impunity to certain injurious influences which before would have brought on the migraine to a certainty.

This, as we have said, is a very simple form of the malady, and in the majority of cases the phenomena are much more severe. Very frequently the pain continues to increase from the moment of onset until it is almost unendurable, and the patient seems almost as if he would go out of his mind. This is often accompanied by an intolerable sense of nausea, and sooner or later by repeated vomiting. The condition is at this time one of great misery and depression, the suffering closely resembling that of a person thoroughly sea-sick. The attack is often accompanied by affections of sight and other phenomena which will subsequently occupy our attention.

Megrim undoubtedly occurs more frequently in women than in men; or, at all events, women apply for relief more frequently than men. The first attack often makes its appearance at the age of seven or eight, or it may be earlier. The age at which the second teeth are cut appears to be especially favourable for its onset. It is not uncommon for women to tell us that the headaches first came on about the age of thirteen or fourteen, "when the periods began." Even in those cases in which the attacks commenced early, and have persisted in a severe form throughout the greater part of life, they are generally found to abate when the patient attains the age of fifty or thereabouts, and they usually cease completely before the onset of old age. It is rare to meet with this malady in old people, and often the attacks appear to reach a maximum of severity about the age of thirty, after which they gradually decline in frequency. In women the seizures may become more severe about the change of life, and diminish again when the critical period has passed. Megrim is in a large number of cases hereditary, and nothing is more common than for the patient to assure you that it is "a family complaint." In one instance with which we are acquainted, the mother and all four daughters suffer from headache. There seems to be in these cases some inherited condition of the nervous system which favours the development of megrim. Sometimes, however, the children do not suffer from the same nervous affection as the parent, but from some allied disorder. For instance, one member of the family may have megrim, a second may be the victim of neuralgia, a third may be subject to fits, a fourth may be a hay-asthmatic, and so on.

Sick-headache is essentially a paroxysmal or intermittent affection. The malady, it is true, is permanent, and may last a lifetime—we know of a case where it has lasted twenty-nine years—but it is only manifested at more or less distant intervals, in distinct attacks or seizures of well-defined character and limited duration, the sufferer, as a rule, enjoying good health in the intervals. The duration of the paroxysm is in different cases very variable, although, in the same individual, it is pretty constant. In some people it lasts only three or four hours, in others seven or eight, whilst it is not uncommon for it to last the whole of the day. We should say that the average duration was from six to twelve hours. In exceptional cases the suffering continues for two or three days, during which it ebbs and flows, the patient recovering a little, then getting worse again, and so on. A lady recently under treatment assured us that on one occasion she had an attack lasting almost continuously for over a month. The seizures

usually subside gradually, generally terminating at night. With some people—a limited number, unfortunately—a very short sleep, say of half an hour's duration, will completely dissipate an attack. Sometimes relief is afforded by vomiting, or by an unexpected action of the bowels, but this is somewhat exceptional. The abrupt transition from intense suffering to perfect health in this malady is very remarkable. "A young woman in the enjoyment of otherwise excellent health, well-nourished, cheerful and active, the life, perhaps, of her family circle, appears in the morning, once in every two or three weeks, a perfectly altered being, with a pale, inanimate face, dull, lustreless eyes, and with all her usual cheerfulness departed, and so remains throughout the day in a state of chronic nausea, and corresponding mental and bodily dejection, to which use alone has made her resigned; and yet the following morning she will be her former self again, as if nothing had occurred; and thus she may continue to live two distinct lives, as it were, perhaps for a long series of years."

The duration of the interval or period of freedom is also variable in different cases, though there is some approach to regularity in the same individual. Some people have an attack every fortnight, others every month or two months, and so on. With many women sick headache recurs at every monthly period, with some commencing a day or two before, and in others following it. The attack, however, seldom returns with the same regularity as does, for example, a fit of ague. In ague the patient can often tell almost to a certainty when the seizure will occur, but in megrim all he knows is that should he exceed his usual time he is not likely to remain free for many days. After an attack the patient usually feels certain that he will not be troubled for some time to come. Curiously enough a sort of compensation is sometimes observed between the severity of a seizure, and the degree of immunity which precedes or follows it. Many people are not anxious for long intervals between their attacks, for they recognise the fact that they have a certain amount of suffering to go through, however it may be broken up or divided, and they would as soon have it regularly as not. In the majority of cases the exact time of the onset of an attack is determined by some apparently trivial circumstance—such, for instance, as a little indigestion or even confined bowels. Some articles of food are especially likely to bring it on, and among those most commonly credited with this property are butter, fat, spices, and alcohol in any form. One gentleman, the subject of megrim, says that for over thirty years he has not been able to take the smallest quantity of wine, not even the sacramental wine, without suffering from an attack. A patient, a woman, now under treatment, tells us that with her certain kinds of food are sure to bring it on. It is positive to come on after pastry, or pork, or bacon, or veal. Even the smell of pork cooking is quite enough. Mutton is almost the only kind of meat that will not bring it on, and even then it must be a very nice little piece. If she cannot get mutton she prefers going without anything. Eggs do not induce it, as a rule, nor does fruit.

Mental emotion and exertion are among the most influential of the occasional exciting causes of the megrim. One of our patients assures us that an attack is infallibly caused by worry or excitement, or emotion of any kind. Even "doing about the house," she says, will bring it on. She has known it come on immediately

when she has just been a bit startled by seeing her little girl fall down, although it was really nothing, and was all over in a minute. The excitement of any one calling on her will often induce an attack, and on this account she never receives a visitor, if she can possibly help it. She likes to be by herself, and "has no mind for company." For years she has been unable to go to any place of amusement. She remembers that even when she was quite a girl any preparation for a day's outing would be sure to bring on an attack, so she never went anywhere, not even out to tea. Going by train or omnibus, or even by the boat, would bring it on. At one time she tried to attend at a hospital as an out-patient, but all the good the doctor did her with his medicine was undone again by the excitement of having to go by the omnibus, so that instead of getting better she got worse. The idea of having to make haste to go anywhere, or having to be anywhere at a certain time, would upset her for days.

Many women, as we have seen, always suffer from megrim at the monthly periods. In one instance the patient became irregular, and menstruated at intervals of a fortnight, and then the attacks followed suit. Often there is a suspension of the attacks during pregnancy, but this is not always the case, and some women suffer from them excessively when in the family way.

Prolonged abstinence from food will often excite megrim. Many people say they suffer from it directly they feel "leer." The delay of half an hour beyond the accustomed time for taking food is with them quite sufficient. In many the transition from sleeping to waking determines the time of the attack. In the patient to whom we have referred, the attack frequently comes on in the middle of the night, during sleep, and this is very likely to be the case when she has over-exerted herself on the previous day.

Attention has been drawn by several writers to the influence which any circumstance tending to tax or try the eyesight has in determining megrim. The case is recorded of a physician, the victim of this malady, who could at any time immediately induce it by attempting to read on a full stomach. In another instance the paroxysm was always excited by the incidence of strong light, or the attempt to read small print. A very curious case was that of a person who always suffered from megrim after looking at a striped wall-paper or a striped dress. In many nervous people the sense of smell is so highly developed that it becomes the occasion of migraines. Our patient informs us that her attacks are readily excited by bad smells of all kinds. The smell of a "dirty drain" would be sure to do it. The smell of beer, she says, always brings on the headache, and turns her sick in a moment. If her husband has taken a drop of beer for supper, and she "catches his breath," it is quite enough for her. Often enough she has got up in the middle of the night, and has gone and slept on the sofa in the sitting-room. Sometimes the smell of tea will bring it on, particularly if she is any way inclined to be ill. A paraffin lamp burning on the table would be sure to upset her. She does not mind nice smells—they do not affect her in any way. She likes flowers, and is not at all afraid of them. She does not like scents, but cannot say positively that they would bring on an attack—she would rather not try. These statements, it should be added, were taken down almost in her own words.

Atmospheric changes, changes of season or weather, are regarded by some as exciting causes of the seizures. Our patient is always very bad when it is frosty, particularly if there should happen to be a cold, cutting wind blowing at the same time. When at home she always goes about with her head done up in flannel. The slightest exposure to the sun would be sure to bring on an attack. She is often afraid to open the door to any one when the sun is shining, for she knows that directly it falls on her head her sufferings begin. A bright light never affects her in any way—it must be the sun. Heat, she says, is very unpleasant to her, and the heat of the fire would be sure to bring it on. She cannot even do a bit of toast without holding something in front of her to ward off the fire. Cold is with her almost as bad as heat. Any little exposure of the head to cold or draught would be sure to excite it; even going out of the kitchen into the scullery for a minute would do it.

The susceptibility to megrim is aggravated by anything tending to lower the standard of health—for example, exhausting discharges, prolonged indigestion, or disordered bowels. Mental exertion, if too close or continuous, has a similar effect—indeed, the complaint is not unfrequently developed by excessive study, coupled with a deficiency of out-door exercise.

We must now describe more fully the headache which is so conspicuous a feature of megrim. The pain presents every variety in different individuals, and sometimes in different attacks, but in the majority of cases it is for a time at least very severe. Occasionally it exhibits that intense and agonising character often met with in neuralgia. It is generally moderate when first felt, and gradually rises, sometimes very quickly, to a great pitch of intensity; this is maintained for a certain time, and then it begins to decline again. With some there seem to be something like remissions and exacerbations; the pain does not always maintain the same degree of severity throughout its course; it is often extreme for some minutes, then subsides, to return again with the same intensity. The pain may be stabbing or darting in character, but it is differently described by different people. They are all agreed, however, that when it reaches its full development it is most distressing, and very hard to bear. Most sufferers state that it is terribly aggravated by movement of any kind. When at its height, light and noise are most unbearable, and the patient is compelled to be still and keep the room as dark and quiet as possible. In exceptional cases, however, the pain may be of that intolerable character, that to keep in one position for any length of time is impossible, and the patient has to get up and move about. Sometimes the headache is limited strictly to one side, but more commonly it oversteps the median line. The pain, however, seldom affects the whole head; but one particular part of it, most commonly the forehead, over one or both eyes. Next to the brow the temple is the most common seat of the pain. In some cases it seems to be focussed on one spot, and then it is that it attains its maximum severity. In cases in which the pain has been most agonising, it has often been confined to a little spot over one eyebrow or temple. As a rule the excessive violence of the pain lasts only a few hours; mostly, however, it is not until from eight to twelve hours that the pain becomes bearable. It may be twenty-four hours or even longer before the last of the uneasiness disappears.

A certain amount of nausea is a pretty constant feature of megrim. In some cases it is slight, in others it attains a high degree of intensity, and is followed by vomiting. From the onset of the attack there is a total loss of appetite; an aversion to every flavour, even to those which are at other times the most grateful. When actual vomiting occurs it sometimes terminates the seizure.

We have already referred to the fact that an attack of megrim is usually accompanied by some affection of the senses. One of the commonest of these is disorder of the sight, and often enough it is the first of the symptoms to make its appearance. Not uncommonly there is partial loss of sight. The patient to whom we have so frequently had occasion to refer suffers from this in a marked degree.

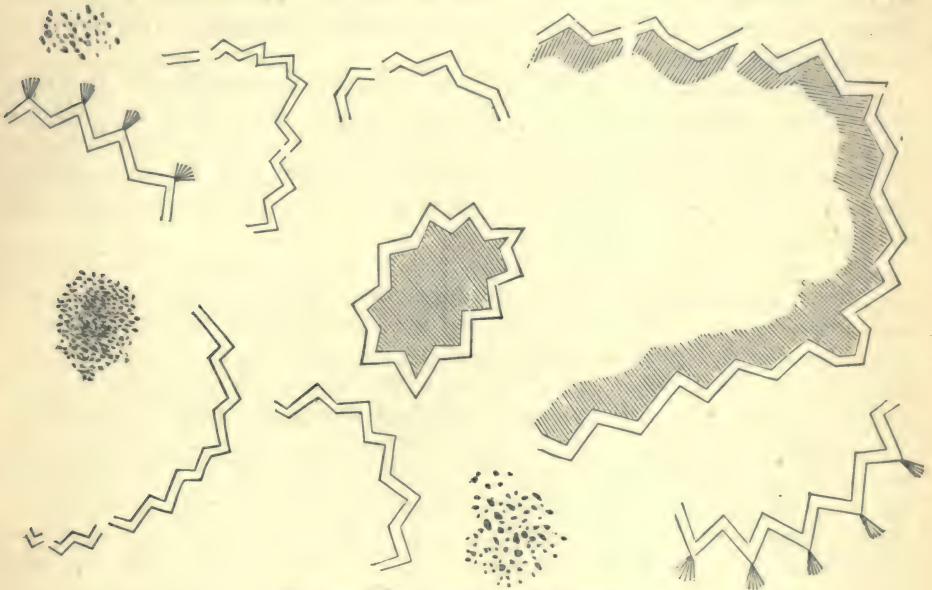


Fig. 8.—SPECTRAL APPEARANCES IN MEGRIM.

She describes it as being like a round curtain in front of her, so that she can see round it only at the sides. Many people liken it to the spot you see after having looked at the sun.

In many instances the blindness or partial blindness is accompanied by certain spectral appearances. These are developed in different degrees in different individuals; in some they are faint and attract but little attention, in others they are so highly pronounced and sharply defined as to make a most powerful impression on the mind. In their simplest form they consist of a luminous border surrounding the black spot more or less completely, and expanding and widening as it expands. In almost every case this luminous border presents an appearance of rapid motion or oscillation; sometimes it seems to be "glimmering," or "all alive," and some people describe "coruscations," and "showers of sparks." The luminous arc depicted around the blank space is coloured with some individuals, but colourless with others.

It may be disposed in zig-zags, or may be like a fortification. Our patient tells us that before an attack comes on she often sees bright crescent moons, sometimes large and apparently close to her, and at others small, as if at a distance. Sometimes she sees specks "like little bits of smut" flying about; when making pie-crust she "keeps picking at it," fancying there are "little black things" on it. Sometimes the specks moving about seem like a cloud of flies.

Numbness and tingling of the hands and upper extremities generally are not unusual phenomena during or immediately after an attack. Sometimes it is described as being like pins and needles, at others the limbs seem to have gone to sleep. Exceptionally, the loss of sensation is accompanied by some impairment of movement, so that the grasp is less firm than it should be, and there is a danger of dropping things. It not unfrequently happens that an attack of the megrim gives rise to a certain amount of mental confusion.

In many cases drowsiness or stupor is an occasional accompaniment. It is of a most uncomfortable and oppressive character, not at all like natural and grateful sleep, but often verging on coma. It is a noteworthy circumstance that this phenomenon is not peculiar to megrim, but is occasionally met with in other nervous diseases. Thus it may attend the progress of asthma, and is of common occurrence after epileptic fits.

The usual termination of an attack of megrim is in sleep not the lethargic condition which sometimes attends the development of the seizure, but a natural and refreshing sleep. This terminal sleep is probably the natural consequence of the exhaustion of the brain resulting from the unnatural state of activity through which it has passed, being similar to that which follows long sight-seeing or other exhaustive occupation of the senses. Sometimes sleep at any period of the attack will at once cut it short. Thus the case is related of a gardener, who, if seized with megrim when at work, would stretch himself out under a tree, go to sleep for half an hour, and then awake well. Sometimes the attacks end in vomiting, and not in sleep. Many people say that if they are not sick their attacks are prolonged, and hang about for days together. Guided by their experience, they often do their best to assist nature, and resort to artificial means. More rarely an attack ends in a copious flow of tears, a large secretion of urine, profuse perspiration, or an evacuation of the bowels. Sometimes the pain and other symptoms gradually subside without the occurrence of sleep, vomiting, or any other form of crisis.

In some curious cases the attack of megrim assumes an irregular form, the headache being but slightly developed, or being entirely obscured by the intensity of the mental phenomena. This affords an explanation of many anomalous seizures, such, for example, as the following, described by an eminent divine and literary character:—"I was this morning engaged," he says, "with a great number of people, who followed each other quickly, and to each of whom I was obliged to give my attention. I was also under the necessity of writing much, but the subjects, which were various and of a trivial and uninteresting nature, had no connection the one with the other. My attention, therefore, was constantly kept on the stretch, and was continually shifting from one subject to another. At last it became necessary that I should write a receipt for some money I had received

on account of the poor. I seated myself and wrote the first two words, but in a moment found that I was incapable of proceeding, for I could not recollect the words which belonged to the ideas that were present in my mind. I strained my attention as much as possible, and tried to write one letter slowly after the others, always having an eye to the preceding one, in order to observe whether they had the usual relationship to each other; but I remarked, and said to myself at the time, that the characters I was writing were not those which I wished to write, and yet I could not discover where the fault lay. I therefore desired, and partly by broken words and syllables and partly by gestures, I made the person who waited for the receipt understand that he should leave me. For about half an hour there reigned a kind of tumultuary disorder in my senses, in which I was incapable of remarking anything very particular, except that one series of ideas forced themselves involuntarily on my mind. The trifling nature of these thoughts I was perfectly aware of, and was also conscious that I made several efforts to get rid of them, and supply their place by better ones, which lay at the bottom of my soul. My soul was as little master of the organs of speech as it had been before of my hand in writing. Thank God, this state did not continue very long, for in about half an hour my head began to grow clearer, the strange and tiresome ideas became less vivid and less turbulent, and I could command my own thoughts with less interruption.

"I now wished to ring for my servant, and desire him to inform my wife to come to me; but I found it still necessary to wait a little longer, to exercise myself in the right pronunciation of the few words I had to say; and the first half-hour's conversation I had with her was, on my part, preserved with a slow and anxious circumspection, until at last I gradually found myself as clear and serene as in the beginning of the day. All that remained was now a slight headache. I recollected the receipt I had begun to write, and in which I knew I had blundered; and upon examining it I observed to my great astonishment, that instead of the words 'Fifty dollars, being one half-year's rate,' which I ought to have written, the words were 'Fifty dollars, through the salvation of Bra—,' with a break after it, for the word 'Bra—' was at the end of the line." This case is so unlike the usual run of cases of megrim, that it might readily be mistaken for something more serious.

Let us now briefly discuss the position of megrim in the classification of diseases. To what affections is it most closely allied? Obviously its most intimate relations are with other paroxysmal nervous diseases, such as epilepsy, asthma, angina pectoris, and neuralgia, and these together form a very natural group. They are all affections which are more or less persistent, the principal phenomena by which they are characterised being, however, discontinuous or intermittent, consisting of paroxysms recurring at variable intervals. Moreover, the tendency to these complaints appears in the great majority of cases to be innate and hereditary, being handed down from parents to children, or from grandparents to grandchildren. Not unfrequently the parent suffers from one member of this group, whilst his offspring suffer from others. For example, a predisposition to epilepsy will sometimes appear in some individuals of a family, whilst their nearest relatives are affected by other maladies of the same class. Another remarkable fact is that these different varieties of nervous affection have each their own particular period of

life at which they are manifested. We have already seen that angina pectoris rarely occurs in young people, whilst megrim is seldom met with after the age of forty-five or fifty. In all these paroxysmal diseases it should be noticed that during each attack the symptoms gradually increase in severity, reach a culminating point, and then decline. Another feature common to the paroxysms of these several nervous affections is their periodical return; not an exact periodicity, it is true, but a rough approximation to regular recurrence, as if the result of a gradually accumulating tension.

Intimately connected with this periodicity is a kind of compensation, observable in many of these affections. There is obviously some relation between the time of exemption and the violence of the succeeding attack, a longer interval being followed by a more severe seizure, or an unusually severe seizure by a longer exemption. The exciting causes of many of these nervous outbreaks are strikingly similar. We have already seen that muscular exertion will determine the occurrence of megrim with many patients, and the same is the case with epilepsy, and especially with angina pectoris. Indigestion is a very frequent exciting cause of a fit of asthma—in fact, one of the commonest varieties of asthma is called “peptic” asthma, the attacks being controlled entirely by the state of the digestive organs. We have already referred at some length to the influence of certain kinds of food in inducing sick-headache. The transition from sleeping to waking is singularly influential in determining the occurrence of many of these seizures. Passion and mental emotion are especially efficacious in determining attacks of asthma and angina pectoris, as they are in exciting megrim. The influence of prolonged fasting or exhaustion is also worth bearing in mind. We think the evidence we have adduced will be regarded as affording a conclusive proof that megrim belongs to the same family group of diseases as do asthma, angina pectoris, epilepsy, and neuralgia. If further evidence were wanted it would be found in the fact that in the same individual one form of seizure is often replaced temporarily, or it may be permanently, by another. For example, epilepsy and asthma are occasionally observed to be interchangeable affections, and in illustration of this the following case is related:—“The patient was a man about fifty years of age, subject to epilepsy. His fits had certain well-known premonitory symptoms, and occurred with tolerable regularity about once a fortnight. On one occasion his medical attendant was sent for in haste, and found him suffering from violent asthma. The account given by his friends was that at the usual time at which he had expected the fit he had experienced the accustomed premonitory symptoms, but instead of these being followed as usual by convulsions, the shortness of breath had come on. Within a few hours this passed off, and left him as well as usual. At the expiration of the accustomed interval after this attack the ordinary premonitory symptoms and the usual epileptic fit occurred. On several occasions this was repeated, the epileptic seizure being, as it were, supplanted by the asthmatic.”

And what, it may be said, is the real cause of megrim? What is it due to? Is it an affection of the liver, or the spleen, or the stomach, or what? This is a question by no means easy to answer, although it is a subject that has occupied the best energies of some of the foremost physiologists and pathologists, not only of this, but we may say of almost every age. It would be wearisome even to enumerate the

different theories that have been brought forward, much less to cite the various arguments adduced in their support. Let it suffice to say that nowadays no one believes that sick-headache is merely a bilious complaint, or even that it has anything to do with bile, and that the general opinion is that the real seat of the disease is in the brain.

Let us now consider what can be done in the way of treatment. There appears to be a very prevalent opinion that megrim is a complaint in which it is of no use trying to do anything—an opinion with which we venture to disagree, for we must confess that we have an almost unlimited faith in the power of medicines—that is, of medicines properly used.

Of course something can be done in the way of general treatment—hygienic measures and so on. The patient may have to be instructed what to eat and what to drink, and still more important, what to avoid. Megrim is of constant occurrence in those who are weakened by a poor and insufficient diet, by too frequent child-bearing, and a prolonged suckling. It often arises from excessive hours of labour, or occupations which entail close confinement in unwholesome and ill-ventilated workshops and dwellings. The treatment of these cases is obvious, however difficult to fulfil. The workman may not be able to induce his employer to get him a light well-ventilated shop to work in, but knowing the value of fresh air he will pass as much of his leisure time as possible out of doors. Women often ruin their health by suckling their children for twelve, fifteen, or eighteen months. With town-dwellers the baby should be weaned at the latest when nine months old. The poor should remember that if they have large families they must make an extra effort to provide for them. In a somewhat higher grade of society we find the malady brought on, or at all events aggravated, by excessive brain-work, with a deficiency of bodily exercise, short restless nights, and insufficient sleep.

So long as a brain-worker is able to sleep well, to eat well, and to take a fair proportion of out-door exercise, it is not necessary to impose any special limits on the actual number of hours he devotes to his labours. But when what is generally known as worry steps in to complicate matters, when cares connected with family arrangements, or with those numerous personal details which we can seldom escape, intervene, or when the daily occupation of life is in itself a fertile source of anxiety, then we find one or other of these three safeguards broken down. Probably the man of business or the successful lawyer fails to shake himself free from his anxieties at night, and slumber becomes fitful or disturbed. The nervous system, unsettled by the mental strain, brings about various defects in nutrition; the appetite fails, and then we meet with the sleeplessness, the dyspepsia, the irresolution, the irritability, and the depression which are the chief miseries of the over-worked. The great thing in these cases is to get a rest at any cost. By rest we do not mean doing nothing, but rather change of scene, of thought, and occupation. If you tell a busy man that he must do nothing, he may endeavour to obey you, but he will soon find out that he cannot, for his brain keeps on working in the same old groove, and he is as much, or even more, worried about his business as if he were still in the thick of it. The great thing is to get a rest by substituting one kind of work by another, to have for a time a nice comfortable sort of occupation to replace

the old weary round of troubles. One of the most important remedial agents is outdoor life and exercise, which may be taken in any form most congenial to the individual—riding, walking, field sports, or what not. This is at once the most natural, and often the most effectual promoter of sleep we can employ. Active bodily exertion is well known to be incompatible with the maximum of intellectual work, and full advantage should be taken of this fact. The only thing to avoid is excessive fatigue. It is a remarkable fact that a very large number of distinguished literary and scientific men have suffered severely from megrim, and it would seem that some of them have succeeded in ridding themselves of the malady by the adoption of some simple hygienic measure. One, for instance, cured himself by following the prescription of a farrier, who advised him to drink water, eat little, and take exercise. Another was cured by drinking every day a large quantity of fresh water, and exchanging a highly nutritious regimen for a much lighter dietary. A third got rid of his old enemy by the same means, and by taking exercise every day before dinner. There can be no doubt that in many cases great benefit would be derived from a thorough change of locality or climate. Long sea-voyages are not unfrequently attended with excellent results, the attacks being absent for months at a time. Unfortunately these are remedies not within the reach of all.

Now as regards diet. In cases of megrim in any degree dependent on or associated with indigestion, the meals should be moderate and regular, with a simple and nutritious dietary, especial care being taken to avoid all articles of food that are notoriously unwholesome, or are known to disagree. The great thing is to live plainly. As a rule it will be found that beef and mutton digest more readily than veal or pork. When indigestion is a prominent symptom, it will have to be treated according to the rules already given (*see* INDIGESTION). Vegetable bitters, such as infusion of quassia, or infusion of calumba, enjoy a high reputation for megrim depending on stomach derangement. The gentian and soda mixture (Pr. 14) may be used for a similar purpose. As a rule it should be taken about half an hour before meals, but when acidity is a prominent symptom it should be taken about the same time after meals. It is in all cases important to regulate the bowels, for nothing goes right when they are confined. When the patient is pale and anæmic, and is evidently suffering from poorness of blood, iron is the best remedy, and other measures will in all probability fail until it has been supplied. It may be given in the form of pills (Pr. 63), or one of the iron mixtures (Pr. 1 or 2) may be resorted to. Cod-liver oil will do much to improve the general nutrition, but sufferers from megrim often experience great difficulty in taking it. It is well worth trying, however. Pancreatic emulsion may in some cases prove useful.

We now pass on to the consideration of what may be called the specific remedies for megrim. It is difficult to say positively what drug will succeed in any individual case. The patient should never despair of being cured, or at all events very materially benefited, till he has tried them all.

Croton chloral is a valuable remedy in this complaint. It should be given in five-grain doses, dissolved in water, every three hours for a week or two. This is a moderate dose, and ten grains can be taken at a dose without inconvenience. We have employed it in many cases with success. We usually prescribe it only in the

milder forms, and when sickness is not a prominent symptom. It is extremely efficacious in relieving the slight attacks many delicate and nervous women experience after fatigue or excitement.

Cannabis indica, or Indian hemp, is another valuable remedy. It is found serviceable, both in cases with little or no nausea, and in cases accompanied by severe vomiting. It is useful in attacks accompanied by spectra, and is especially effective when, from fatigue, anxiety, or change of life, the attacks are becoming more frequent. A third of a grain of extract of Indian hemp should be taken twice or thrice daily. This dose can be made up into a pill by any chemist. It is a pharmacopoeial remedy, and it may be taken for a month or more without any fear of ill effects. Should the dose we have recommended fail to do good, it may be increased to half a grain twice or thrice daily (Pr. 67). It is one of the best remedies we have for megrim, and its use should not be discarded without a fair trial.

Of the use of valerianate of zinc we have already spoken when dealing with the subject of headache generally (*see* HEADACHE).

Guarana, or Brazilian cocoa, has been somewhat extensively used during the last five or six years in the treatment of sick-headache. It consists of the powdered seeds of *Paullinia sorbilis*, and is usually given in fifteen-grain doses. One of these powders should be taken every night, and on the occurrence of an attack, every three hours. It is especially recommended when the pain is confined to the right side. It is a little bit uncertain in its action, but it sometimes acts quite like a charm. Guarana belongs to the same botanical family as tea and coffee, and the active principle of the latter—caffeine—has been used successfully in the treatment of sick-headache.

Iodide of potassium is a remedy often employed with success in these cases. It is especially indicated in any case in which there is a syphilitic taint, but even when there is nothing of the kind it often succeeds admirably. Two table-spoonfuls of the mixture (Pr. 32) should be taken three times a day for a week or more.

Bromide of potassium is most likely to succeed in women exhibiting a marked hysterical tendency, or in those who have some derangement of the womb. Two or three table-spoonfuls of the mixture (Pr. 31) should be taken three times a day, for at least a fortnight.

Chloride of ammonium not unfrequently does good. The dose is from thirty to forty grains three or four times a day, and it is best given in milk. The great point is to take plenty of it, for small doses seldom do any good. Should it not succeed quickly it will probably not succeed at all.

Common salt has been recommended, but we have had no experience of its use. An author of repute says:—"I will only mention as a contribution from my own experience of such cases, that long periods of exemption from returns of their headaches have occurred to patients who have faithfully observed my directions that they should drink a tumbler of common salt and water every morning an hour before breakfast." It is curious that so simple a remedy should not have come into more general use. We suppose the fact is that patients who consult a physician for their ailments expect to have some more potent remedy prescribed

for them than common salt. Many people value a drug and estimate the good it does them by its rarity, or the price they pay for it—a very pernicious principle.

Nux Vomica (Pr. 44) will sometimes be found useful, especially when the stomach symptoms predominate. Small doses of carbolic acid are sometimes used. A tincture made from the *Iris versicolor*, or common blue-flag, has proved successful; it is said to be indicated when the headache is preceded by a film before the eyes. A small piece of aconitia or veratria ointment, rubbed into the forehead quite at the commencement of an attack, will sometimes cut it short (*see* NEURALGIA). An ever popular remedy is blue-pill. Friedrichshall water often does good.

Next as to the treatment during an attack. As the suffering in megrim is greatly aggravated by every form of motion and muscular exertion, and is relieved by recumbency and quiet, the patient from the commencement should retire to a darkened room, as far from noise and disturbance as possible, and, lying down, should endeavour to maintain the position that appears to be most comfortable. If he can succeed in falling off to sleep the attack may be cut short, and in any case the suffering will be less than if he had attempted to keep about. Many doctors recommend that the position should be a slight incline, with the head highest; and this position may undoubtedly be adopted with advantage when there is throbbing or pulsation of the head. Should there be chilliness, a plentiful supply of blankets and a hot-water bottle to the feet will probably do good. A diffusible stimulant, such as a stiff glass of brandy-and-water, given quite at the commencement, will sometimes cut short the attack. A dose of bromide of potassium—three or four table-spoonfuls of the mixture—will often induce sleep and quickly afford relief, but not unfrequently it fails. Sometimes a dose of bicarbonate of potash has a similar effect. A cup of strong tea or coffee often prevents a threatened megrim seizure, especially if the patient can remain quiet for a time. A gentleman informs us that he obtains greater relief from a bottle of soda water, in which a lemon has been squeezed, than from anything. Should it fail, he takes another after a short interval. A dose of guarana may do good, but, as we have said, it is somewhat uncertain in its action. Some people resort to an emetic, and a patient of ours always endeavours to make herself sick by thrusting her fingers down her throat; but it is not the pleasantest of remedies. The inhalation of a little chloroform or ether from a handkerchief or piece of lint may afford temporary relief, but it is not a measure one is justified in resorting to without the presence of another person. Nitrite of amyl has been employed as an inhalation with success. It is to be used in the manner indicated when speaking of angina pectoris (*see* ANGINA PECTORIS). When the pain is limited to one side, keeping up pressure on the head with the hand, or rubbing the forehead often does good. Many people obtain relief by plunging the head into cold water, or tying a damp towel round the head. Others advise that in addition mustard plasters should be applied to the calves of the leg. It must be confessed that often enough these measures do little or no good, and many people will be found to endorse the following opinion:—"During the paroxysm there is scarcely anything to be done; moreover, the patients are so much afraid of all noise, motion,

or anything approaching them, that they infinitely prefer to be left perfectly quiet, than tormented with useless measures."

NERVOUSNESS.

For information on this subject and on NERVOUS DEBILITY, the articles ANÆMIA, p. 92, and DEBILITY, p. 207, may be consulted.

NEURALGIA.

In neuralgia, of whatever form, the pain is more or less intermittent. The patient never suffers from it continuously with equal severity; there are times when it is either considerably better or altogether absent, and this is an essential feature of the complaint.

Another characteristic is that depressing influences of all kinds favour the induction of an attack of acute pain, and distinctly aggravate it when already existent.

In the vast majority of cases neuralgia arises by itself, as we say—that is, as the result of constitutional causes; but in exceptional instances it has a mechanical origin, and of this we will adduce an example. A sailor was wounded by a musket-ball in the arm. The wound healed; but the patient remained affected with agonising pain, beginning in the tips of the thumb and fingers, except the little finger, and extending up the fore-arm. His sufferings were so great that he willingly submitted to have the limb amputated; and the operation gave him complete and immediate relief. When the severed limb was dissected a small portion of lead, which doubtless had been detached from the ball when it struck against the bone, was found embedded in the substance of one of the nerves. Neuralgia may be produced by a shock, such as results from a bad fall or a railway accident, or even by severe mental emotion acting on a delicate organism. Under these circumstances the development of the affection seldom occurs at once, but ensues after a variable interval, during which the patient exhibits symptoms of general depression, with perhaps loss of appetite and strength. When once fully developed, there is nothing to distinguish this from the more ordinary forms which result from purely constitutional disturbance. Sometimes a cut, which perchance has severed a nerve, may be the starting-point of neuralgia. In one case paroxysms of excruciating pain in the little finger followed a gash with a tolerably sharp bread-knife at a point a little above the wrist. These attacks recurred for more than a month, long after the original wound had completely healed. Curiously enough, injury to a nerve may set up neuralgia in quite a different part of the body, and the removal of a small piece of glass from the cicatrix of an old wound has been known to cure neuralgia in a distant situation, for which remedies had long been tried in vain.

Neuralgia sometimes arises as the result of ague, and in this country this variety was formerly far more prevalent than at present. We often meet with it in people who have suffered from ague abroad. The term "brow ague," is to this day applied by many to that variety of neuralgia which is experienced just over

one or other eyebrow. The fact of the attacks coming on at regular intervals is one of the great characteristics of neuralgia really resulting from ague.

Neuralgia is seldom met with in young children, but not unfrequently it makes its appearance about the age of fourteen. Usually, however, it comes on later, between the ages of twenty-five and forty-five. It is at this time that the individual is subjected to the greatest strain from external circumstances. A man, if poor, is engaged in the absorbing struggle for existence, in the endeavour to maintain his wife and family, or if rich and idle he is immersed in dissipation or haunted by the mental disgust generated by *ennui*. A woman, if married, is going through the exhausting process of child-bearing, or if single is probably idle and weary with waiting, fearing lest she should lose her chance of fulfilling those duties which so essentially constitute her mission in life. Sometimes neuralgia makes its first appearance when the race of life is well-nigh run, and indications of physical decay are already making themselves apparent.

Neuralgic pains may occur in any part of the body, but they are met with most frequently about the head and face. One variety of neuralgia of the head is more or less familiar to us all under the name of "tic" or "tic douloureux." Neuralgic pains are usually suspended during sleep. The tic, for example, may keep the sufferer awake for hours and hours, but once asleep his slumber is likely to remain undisturbed. Sometimes the pain is experienced chiefly in the region of the lower jaw, and then it usually affects the lips, the teeth, the chin, and it may be even one side of the tongue. Curiously enough the pain is usually strictly limited to one side, often stopping abruptly in the middle line. The paroxysms of suffering in this frightful disease are apt to be induced by the most trivial causes; a sudden jar, a current of cold air blowing on the face, a slight touch, or even the mere mention of the malady, may be sufficient to excite it. The necessary movements of the face in speaking or eating may bring on the pain, and the patient is in constant dread of a visit from his enemy. Often enough neuralgia is associated with toothache, and still more frequently a decayed tooth, or long-forgotten stump, although not itself painful, is found on examination to be the exciting cause. Wonderful instances of the cure of long persistent neuralgia are attributable to the dentist's art. In one case, and this is but one of many, attacks of agonising pain coursing along one half of the jaw were at once arrested by stopping a hollow molar on that side.

The pain of some forms of neuralgia is agonising, and it has been supposed by many that it is the most severe the human frame is capable of suffering. Usually it comes on in sudden twinges, which are very characteristic of the complaint. Some people compare it to an electric shock of great intensity, others to the conflagration of gunpowder, or to the explosive violence of fulminating powder whilst others declare that it is simply indescribable. A well-known physician, now dead, is reported to have stamped out the bottom of his carriage during a paroxysm, and another member of the medical profession was induced by the excessive agony to make deep cuts into his face and then to apply a red-hot iron to the wound, and the pain not being mitigated, he several times attempted suicide. Even in comparatively mild cases the patient often on the instant

of the attack becomes fixed like a statue, fearing to move a muscle or a limb, lest he should aggravate the pain or reproduce the seizure.

One of the commonest forms of neuralgia of the limbs is that which is experienced in the little finger and the contiguous side of the next finger. Often enough it extends downwards from behind the elbow to that spot. The nerve affected in these cases is the "ulnar," a blow on which gives rise to that peculiar sensation experienced on striking what we call the "funny-bone," which is in reality nothing but this nerve. This form of neuralgia is often kept up and revived when apparently dying out by muscular movement. In the case of a lady, a highly accomplished musician, pianoforte-playing had to be abandoned on this account, the slightest exertion with the hands infallibly bringing on an attack of pain.

Neuralgia of the side is by no means an uncommon affection, and it is frequently one involving much suffering. A variety not uncommonly met with is the pain beneath the left breast, which women with neuralgic tendencies so often experience, chiefly as the result of over-suckling, combined, perhaps, with some menstrual irregularity. Neuralgia of the side is not uncommonly associated with shingles, and an attack of shingles often leaves behind it for some time a legacy of neuralgic pains. It is important to distinguish neuralgia of the side from the purely muscular affection to which the term myalgia has been applied (*see MYALGIA*). Neuralgia is non-dependent, or much less dependent than myalgia, on excessive or long-continued muscular exertion. Moreover, there is marked intermittence in the neuralgic affection, the pains not being constant, but only occasional.

A curious fact in connection with neuralgia of the face is, that after a severe attack the hair on that side of the head often turns grey, the colour being after a time gradually restored to its original tint. This may at first seem difficult of belief, but it is true, and has been observed in many instances.

With regard to the duration of neuralgia we must say a word or two. Some cases run an acute course, lasting only a few days or weeks, the disease terminating after a short series of more or less violent paroxysms. In other cases the disease is chronic, lasting for weeks and months, and even, if the successive and frequent relapses be included, for years. In exceptional instances, neuralgia is persistent throughout life, though with intermissions of longer or shorter duration, and with considerable variations in intensity. On the whole it may be stated that the majority of cases terminate in complete recovery.

Let us now consider what steps may be taken to ward off neuralgia in those who are constitutionally or hereditarily predisposed to it. Much may be done to prevent the development of the affection by timely care and attention. Good diet is of primary importance. It should be abundant, and should include a fair allowance of meat, bread, eggs, and especially milk, given in conjunction with cod-liver oil, and no apprehension need be entertained of its proving too stimulating. Regular and systematic exercise is an invaluable adjunct to good feeding, powerfully contributing as it does to the strengthening of the nervous system. Exercise, in whatever form it may be taken, should not be excessive, and should be alternated with a due proportion of rest. A sufficient amount of sleep, especially during the period of youth

and development, is very essential, and for growing boys and girls nine or ten hours is not too much. A good portion of the day should be passed in the open air, and close, badly ventilated school-rooms are to be sedulously avoided. The dull, heavy headache from which children often suffer after prolonged study not unfrequently ends in neuralgia. In the warmer months of the year, it is a capital plan to make children learn their lessons out in the fresh air or in a summer-house. Of course in many cases this is impossible, but with people living in the country and having a garden, however small, it might be done without the slightest trouble, and it is a little point well worth attending to. No stimulants of any kind should be taken either in the form of tea, coffee, or spirituous liquors. Milk is a capital drink for young people, and what can be better than a draught of pure spring water—if you can get it. The cold bath, or sea or river bathing, will do much to ward off that condition of general debility which is so favourable to the development of all neuralgic affections. The greatest attention must be paid to the mental and physical development, but there should be no superfluous loading of the mind with useless knowledge. Young people should be led to devote themselves to earnest, systematic, and yet interesting study. No cultivation of vanity or ambition should be permitted; there should be no attendance on frivolous or vicious theatrical performances, but the great aim should be a true devotion to poetry, music, and art. Excessive reading of trashy novels is one of the conditions most favourable to the development of neuralgia. The increasing precocity of boys and girls, in their familiarity with the most objectionable aspects of passion and intrigue, is steadily fed, in the present day, by a system that only too frequently allows unlimited access to literature which is at once devoid of all true literary and artistic merit, and replete with sensational incidents of the most pernicious character. The same degrading tendency is to be noticed in many of the most popular dramatic and public exhibitions of the day, their main characteristic being too often bad art and thinly-veiled sensuality, which is all the more hurtful for being veiled at all. As has been truly said, it would be a hundred times better that a boy, or even a girl, should study the frank, out-spoken descriptions to be found in Shakespeare or Fielding, with all their occasional coarseness, than that they should enervate their minds with the sickly trash that is most current and most popular at the present day in the theatre and circulating library.

Those who have already suffered from neuralgia and are anxious to avoid a relapse should carefully avoid all influences which are known to be hurtful, such, for instance, as exposure to cold, insufficient or indigestible food, and mental or bodily over-exertion. People engaged in business or professional work should endeavour to get a month or six weeks' holiday every summer, and should utilise it for obtaining a renewed supply of health and energy. Care should be taken to avoid mental excitement, disturbances of the digestive organs, and, speaking generally, all those injurious influences which are recognised as being favourable to the induction of a paroxysm. Avoidance of exposure to cold and wet, and to draughts of air, is especially important.

When neuralgia is fully developed these measures will have to be observed with increased care and attention. The food should be good and abundant, especially in

the case of very young or aged persons. It is advisable to give a larger supply of food than would be necessary for the maintenance of health in people not subject to this affection. Fat is of especial value when taken in conjunction with plenty of meat, milk, eggs, and bread. On this account the continued use of cod-liver oil is strongly recommended, and when it cannot be taken attempts must be made to supply its place by the free use of Devonshire cream, plain cream, butter, olive oil, or pancreatic emulsion. Unfortunately neuralgic patients have an almost insurmountable aversion to fat, and the greatest tact and patience will be required to overcome this difficulty. Many doctors find pulsatilla useful in removing the objection to fatty food. Wine or beer should be taken, if at all, only at meal-times, and then in the strictest moderation, anything like excess being scrupulously avoided. The advantages of uniformity of temperature are not to be overlooked, and the clothing should be carefully adapted to give protection against sudden cooling of the body or catching cold.

No treatment is likely to prove of much avail in neuralgia unless anæmia, if present, be previously removed. Poorness of the blood appears to be especially favourable to the maintenance of all neuralgic affections. The sulphate of iron pills (Pr. 63) may be given with great advantage. Another good preparation of iron is the tincture of steel, and this may be given in thirty or even forty-drop doses, well diluted with water, three times a day, about an hour after meals. The perchloride of iron mixture (Pr. 1) may be employed if preferred. A good combination is fifteen drops of tincture of steel and six drops of tincture of nux vomica in a wine-glassful of water three times a day. In some cases the arsenic mixture (Pr. 40) does much to improve the quality of the blood, but it is, as a rule, inferior to iron. Further directions for the treatment of anæmia will be found under that heading (*see* ANÆMIA).

One of the best remedies for neuralgia is quinine. In all cases in which there is any suspicion of ague, or when the patient is residing in a district where ague is prevalent, this is the remedy to give. It is indicated, too, when the attacks come on at regular intervals. It has long been recognised that quinine readily controls that form of neuralgia in which the pain is experienced at a spot just above one or other of the eyebrows. Quinine, to do any good in neuralgia, must be taken in fairly large doses—thus two table-spoonfuls of the strong quinine mixture (Pr. 10) should be taken every four hours. Some chemists now keep five-grain quinine pills, made up with a drop or two of syrup; and, by many, these will be preferred to the mixture; one should be taken every four hours. Quinine is said to control neuralgia and ordinary faceache more effectively when the powder is taken in small quantities every few minutes—as much, for instance, as will adhere to the tip of the finger dipped into the powder. We need hardly point out the importance of getting your quinine pure. The three great indications for the use of quinine are—(1) suspicion of ague; (2) paroxysms being periodical; (3) pain being experienced chiefly over eyebrow. In very obstinate cases of neuralgia, which have resisted all other treatment, the Germans often give what we should consider enormous doses of quinine—from forty grains to two drachms a day.

Croton chloral must take a high place as a remedy for neuralgia. It succeeds

even when the complaint is due to decayed teeth, and it will often obviate the necessity for an appeal to the dentist. It frequently cures the neuralgia of old people, in whom the complaint is generally most obstinate and severe. It will be found serviceable in neuralgia of the back of the head, and also when it affects the back of the neck, the pain radiating to the shoulders. It must be taken in five-grain doses, dissolved in water, every three hours; and should this dose fail it must be doubled. It should be given simply in water, and without anything to flavour it.

Phosphorus is another excellent remedy, and some regard it as almost a specific. It appears to be efficacious in neuralgia of any part of the body, and is admirably suited for people advanced in life. It should be given in doses of about one-twentieth of a grain every three or four hours, and it may be conveniently taken in the form of a pill, although the phosphorus pills of the pharmacopœia, from being made with wax that melts at a higher temperature than that of the body, are useless. Phosphorus capsules (Pr. 54) may be employed with advantage. The pharmacopœial phosphorated oil is a reliable preparation, and may be taken in from five to ten-drop doses in a little milk every three hours. A saturated solution of phosphorus in ether (Pr. 53) is very useful, and in five-drop doses every three hours has been known to work some wonderful cures. It is best taken on sugar or in a little milk. It must never be added to water in a bottle, with the idea of forming a mixture, for it would float on the top, and the patient might take a week's medicine with the first dose. We have seen benefit derived from it in neuralgia of the forearm. Phosphorus is a remedy on which we place great reliance in the treatment of neuralgia of all kinds. As might be expected, long-standing cases take the longer to cure; but even in them relief often follows the first few doses.

Chloride of ammonium enjoys a high reputation in the treatment of neuralgia. It sometimes succeeds admirably in neuralgia of the face. It is to be given in thirty-grain doses every four hours, and may be taken either alone in water or mixed with milk. Should it fail to afford relief in three or four days, it will probably fail altogether, and may be regarded as unsuited to the case.

Tincture of gelseminum is capital for neuralgic pains running along the lower jaw. It will often succeed admirably when the neuralgia is the result of decayed teeth. From five to ten drops should be taken in a wine-glassful of water every three hours. It in exceptional cases produces giddiness, double vision, and unsteadiness of gait; but these symptoms are quite temporary, and will all have disappeared in an hour or two on discontinuing the medicine. It often happens that gelseminum cures neuralgia, but leaves a toothache with which it may be associated unaffected. To get any good out of gelseminum you must take it alone in water, and not with other things in a mixture. This is a point often neglected. Pr. 41 may be employed.

Arsenic proves highly beneficial in some cases of neuralgia. It is said to succeed best when the pain is limited to the left side. The pain which it most frequently cures is of a burning or agonising character, and is accompanied by great restlessness. It is generally made worse by the application of cold, is increased by rest, and diminished by exercise. The arsenic may be given in tea-

spoonful doses of the mixture (Pr. 40) four times a day, or half the quantity may be given twice as frequently. Arsenic succeeds best in the sufferers from an exhausted or debilitated condition, who have a small pulse, and cold hands and feet.

Tincture of belladonna is not unfrequently given in neuralgia. It is indicated when there are acute, throbbing, intermittent pains, with redness of the affected part, and unusual sensitiveness to light, noise, and movement. It should be given in three-drop doses every three hours in a little water, or a smaller dose may be administered more frequently. Pr. 39 may be used. Belladonna does most good when the patient is full-blooded, and of a plethoric habit.

Bromide of potassium seems to be useful in a certain limited number of cases. It is said to succeed best in young men and women of high principle and high mental culture, to whom marriage is delayed by fate till long after the natural period for it. The dose of the bromide has much to do with the success of the treatment. We may commence with two table-spoonfuls of the mixture (Pr. 31) three times a day, but it will probably be necessary to double the quantity before its full benefits are obtained.

Tonga is a remedy for neuralgia which has long been used by the natives of the Fiji Islands. It consists of parts of at least two plants, the botanical names of which are not yet known. It is made into a fluid extract, and of this the dose is from half a tea-spoonful to a tea-spoonful in a little water three times a day. Relief generally follows the third or fourth dose, without the production of any constitutional disturbance. We have used it in a large number of cases with marked benefit. No ill effects follow the administration of larger doses. It has only recently been introduced into this country, but is now imported in large quantities, and can be obtained without difficulty.

So much, then, for what may be called the specific remedies for neuralgia. But even when we cannot cure the complaint, we can do much to alleviate pain; and we should do well to consider what means are at our disposal for effecting this purpose. First and foremost comes the hypodermic injection of morphia. The great advantage of administering opium by the skin instead of by the mouth is, that it does not upset the stomach, and, moreover, a smaller dose will suffice. Indeed, the case is hardly expressed with sufficient force when we say that the hypodermic injection of morphia is usually harmless to the digestive functions, for in a great number of instances it will be found actually to give an important stimulus both to appetite and digestion, and the patient, who without its aid could hardly be persuaded to take food at all, will not unfrequently eat a hearty meal within half an hour after the injection. Such a case has quite recently come under our notice. We are thus enabled, not only to alleviate pain, but to carry out simultaneously that plan of generous nutrition which is so essential to successful treatment. The dose required is usually one-sixth of a grain of acetate of morphia to begin with, corresponding to two drops of the pharmacopœial solution. There is not the slightest occasion to inject the drug over the seat of pain, for it will prove equally efficacious if introduced under the skin of the arm or leg. We cannot recommend the patient to adopt this mode of treatment for himself, but still, in exceptional cases, where the paroxysms are very severe, and other treatment has proved unavailing, it may have to be resorted to under medical advice. It is very important not to repeat the injection with unnecessary frequency; once a day in the milder, and twice a day in

very severe cases will be all that is advisable, the great thing being to administer it as quickly as possible after the commencement of an exacerbation. If by these means we can prevent the recurrence of severe pain for several days, time is given to the affected nerve to recover itself, and the tendency to neuralgia may be broken through. In some cases a friend or relative might be instructed by the doctor how to give the injection, and in this way a great boon would be conferred on the sufferer. We not unfrequently meet with cases where hypodermic injections of atropia have done more good than anything.

A single dose of chloral, say one or two tea-spoonfuls of the syrup, will often enable the patient to obtain much needed rest. Chloral, like opium, is not a remedy that can be used indiscriminately and without caution. Nothing can be worse than for the sufferer from neuralgia to acquire a habit of using either of these drugs for the relief of pains. But still, the possibility of a drug being abused does not justify us in altogether rejecting its use. It is very important that the habit of long neuralgic paroxysms should not be set up, and if two or three attacks are promptly stopped by the induction of a sound but not too profound a sleep, time is allowed for so modifying the constitution by tonics and general regimen and diet as to eradicate the neuralgic disposition, or, at least, to reduce it to a minimum. Indian hemp (*Cannabis indica*) may sometimes be used as a substitute for chloral or morphia. Half a grain of the extract of Indian hemp should be taken in the form of a pill (Pr. 67), and repeated in two hours should the desired effect not be produced.

There are many local applications which are used for the relief of the pains of neuralgia. Blisters are often of essential service. A blister to the temple or behind the ear generally relieves neuralgic pains of the forehead or any part of the face. The obstinate form of facial neuralgia dependent on a diseased tooth often yields to a blister, the neuralgic pains ceasing, although the toothache may continue. Blisters relieve the shifting neuralgic pains common in nervous, sensitive women. The obstinate neuralgia of the side left by shingles, and occurring mostly in old people, generally yields to blisters. There is no occasion to make the blister large; if of the size of half-a-crown it will be quite enough. Blistering paper, although mild in its action, requiring some hour's application, generally produces enough irritation to relieve neuralgia of the face, but should the pain continue unabated it may be necessary to paint on a little blistering fluid with a brush. For application to the side, nothing can be better than a piece of cantharides plaster, as big as half-a-crown. It will probably take from six to eight hours to raise a blister, and it should then be removed. It is better not to cut the bleb, or prick it in any way, for it serves to protect the subjacent raw surface from the action of the air and other irritants. All that is necessary is to cover the side with a thick layer of cotton-wool to ward off pressure. Other counter-irritants, such as mustard and iodine paint, are used for neuralgia, but they are decidedly inferior to cantharides. Blistering is distinctly a good mode of treatment.

The external application of aconite is often very useful in neuralgia, although in our present state of knowledge it is impossible to say in what cases it will succeed and in what fail. In neuralgia of the face we have often known it do a great deal of good. In cases in which it effects a cure its action is usually very speedy. A

piece of aconite ointment the size of a bean or nut should be rubbed into the painful spot, and this quantity may be repeated at intervals until a feeling of tingling is induced, after which it should not be continued. The aconite liniment, or the tincture of aconite may be applied, by means of a brush, along the course of the painful nerves. A very good plan is to mix the aconite liniment with an equal quantity of chloroform liniment, which assists absorption. Sometimes it will suffice to make the application over the most painful spot. In using a powerful remedy such as aconite, the greatest care must be taken not to rub it into wounds or cracks in the skin, and above all to avoid bringing it into contact with the lips or eyes. In some cases veratria ointment mixed with an equal quantity of lard may be used in place of the aconite ointment, but it, too, must be used with a certain amount of discretion.

A liniment made by rubbing together equal parts of chloral and powdered camphor often affords relief in neuralgia, when painted on the painful part. A great advantage is that when successful the relief is almost instantaneous.

A solution of morphia in oleic acid, of the strength of one or two grains to the drachm, often succeeds admirably as an external application. Any London chemist would quickly make this preparation. From five to ten drops should be rubbed into the painful spot with the tip of the finger. It should be used once or twice a day. Freezing the part by means of the ether spray often gives great relief in neuralgia, and is by no means a bad mode of treatment.

Electricity is undoubtedly destined to play an important part in the treatment of neuralgia. We can hardly enter into a discussion of the whole subject, but a brief statement of the present position of medical opinion on the subject may be of use to some of our readers. So many people nowadays are acquainted with at least the elements of electrical science, that the sufferer, once knowing the form of electricity he requires, will have, but little difficulty in getting the requisite application made. In the first place, then, Faradic electricity is of little or no value in neuralgia, and the same may be said of frictional electricity. The constant current, on the other hand, is a remedy unapproached in power by any other, save only blistering, and the hypodermic injection of morphia; and even the latter is often surpassed by it in permanence of effect, while it is applicable in not a few cases where blistering would be useless. The greatest care is necessary in the choice of an apparatus, and the mode of application of the electricity. The battery should be *constant*, and not merely *continuous*. Many of the chains ordinarily sold for this purpose fail to afford relief on this account. A sufficiently constant current may be obtained from either a Daniell's, a Bunsen's, or a Smee's apparatus. Stöhrer's modification of Bunsen's battery is one of the best. It is made so that the elements are not immersed in the exciting fluid until the moment of use, a simple mechanism at once throwing the battery into or out of gear. Few people would care to purchase an expensive apparatus such as an electrical battery, even on the chance of being cured of a persistent neuralgia; but this difficulty may be overcome by borrowing the apparatus, or hiring it from a surgical instrument maker. This may be done at a comparatively small cost, and a very little instruction would soon teach the patient or some friend or relative how to use it. The use of a current intense enough

to produce pain, or even severe discomfort, is never to be thought of in the treatment of neuralgia, and such practice would inevitably do harm. Only such a current is to be used as produces merely a slight tingling, and, on prolonged application, a slight burning sensation, with a little reddening of the skin at one electrode. This is a point of the utmost importance, and anything like a shock is quite out of the question; in fact, it is a different kind of electricity altogether. The application of the current should be made at regular intervals, and at least once a day; in most cases this is enough, but sometimes it is useful to do it twice a day. The matter of regularity is of importance, and it will not do to abandon the treatment immediately on the occurrence of a break in the neuralgic attacks, but it should be continued for some days longer. The length of the application at each sitting should be from five to ten, or at the utmost fifteen minutes.

Respecting the surgical treatment of neuralgia we have little or nothing to say. Division of the affected nerve is alike unscientific and useless. Surgical interference is of course justifiable when, along with decided and intractable neuralgic pain, there is distinct evidence of the presence of some foreign body or of an old scar pressing on the nerve, but these cases are rare and exceptional. In some cases, too, decayed teeth may have to be removed for the cure of neuralgia, but it should be remembered that thousands of teeth have been extracted from the mouths of patients, not only without benefit, but with the effect of distinctly aggravating the complaint.

NIGHT-SWEATING.

Night-sweating is of frequent occurrence as a symptom of consumption. It is not present in every case, but it is in a good many. Curiously enough, the perspiration seems to have a close connection with the sleep of the patient: it seldom comes on while he continues to lie awake; but after sleeping he wakes, and finds that he is sweating. In a very large number of cases it comes on about three or four in the morning. It varies very much in degree in different cases; sometimes it is merely a little dampness about the head and face, at others it is enough to wet the flannel and night-shirt, and even the sheets. In one case the patient assures us that the bed was wet through right to the mattress. We have heard a man say that he was so wet, that it was "just for all the world as if he had been in a bath." We have known instances in which the unfortunate sufferer has been obliged to get up in the middle of the night to change his wet things. The perspiration is generally more profuse about the head and chest than the rest of the body, but sometimes the patient sweats all over, even down to the tips of his toes. Sometimes the sweating exhibits a good deal of capriciousness—the patient may suffer from it terribly for a week or two, and then it may suddenly take its departure, there being no return for a month or more. The sweating is no evidence of the existence of high fever, for we have often observed it when the temperature has been but little above the normal. It is most exhausting, and it is always desirable to stop it with as little delay as possible. Fortunately the remedies at our command usually enable us to do so without much trouble.

A very good remedy for night-sweating is oxide of zinc. One or two of the oxide

of zinc pills (Pr. 66) should be given every night at bed-time, until the sweating ceases. This is a mode of treatment which has been in use for years at the Brompton and other hospitals for consumption.

Dover's powder is a remarkably good remedy. We usually give ten grains every night at bed-time. We have employed it in a large number of cases, and have rarely known it fail. Five grains of the powder may be made into a pill, and two of these may be given at bed-time.

The injection of atropia under the skin usually proves successful. We employ a solution made by dissolving one grain of atropia in two hundred minims of water, and then inject one or two drops of this at bed-time under the skin of the arm. It is a valuable remedy in the hands of any one who knows how to give a hypodermic injection. We have employed it in nearly a hundred instances, and with almost uniform success. Very often a single injection will stop the sweating for three or four nights, or even longer. Occasionally it fails the first night, but subsequently succeeds. The atropia not unfrequently relieves the cough—at all events, temporarily. Picrotoxine is another good remedy. One of the picrotoxine pills (Pr. 102) should be taken at bed-time, and another may be taken in the early morning if necessary.

A dose of the astringent mixture (Pr. 29) given at bed-time often does good; but we are inclined to think that it is inferior to the remedies we have already indicated.

A two table-spoonful dose of the strong quinine mixture (Pr. 10) the last thing before going to bed often succeeds admirably.

The practice of sponging the body with vinegar and water at bed-time to prevent sweating is not a bad one, and often proves successful. It is rather more troublesome than simply taking a pill or dose of medicine, and the exposure may possibly give the patient cold.

In some instances we have given ten drops of tincture of jaborandi in water at bed-time, with manifest advantage.

Many doctors, regarding the sweating as an indication of debility, always order a light supper to be taken just before retiring to rest. A glass of port wine and a biscuit or two usually answers the purpose. This mode of treatment may be used in conjunction with one or other of the specific remedies. Nine times out of ten relief will be obtained from either the oxide of zinc pills or the Dover's powder.

OBESITY.

By obesity we mean excessive fatness, or the accumulation of fat under the skin, and around some of the internal organs, to such an extent as to exercise a prejudicial influence on the health or comfort of the individual. The term corpulence is usually restricted to slighter cases, in which the quantity of fat is not so great as to cause positive inconvenience or discomfort.

A moderate amount of fat is one of the signs of health, and conduces greatly to our comfort and well-being. The uses of this substance in the animal economy are many and various, and merit a brief consideration. In the first place, it serves the merely mechanical purpose of a light, soft, and elastic packing material, which

being deposited between and around the different organs of the body, affords them support, and protects them from the injurious effects of pressure. Further, being a bad conductor of heat, the fat beneath the skin serves to some extent as a means of retaining the warmth of the body. But the most important use of fat is seen in what occurs during the process of nutrition, for when more fat-forming material is taken into the system than is absolutely required for the maintenance of the body, it is stored up and laid by in the form of fat, to become available for use when the expenditure exceeds the immediate supply. When the direct supply of nourishment is cut off by withholding it, or by interruption of the process of digestion, Nature has recourse to that which has been laid up in reserve in the form of fat. As every one knows, in the wasting of the body which ensues as the result of starvation, fat is the part first consumed.

Although the uses of fat are so many, and although it is such a valuable constituent of the body, it when in excess becomes not only burdensome and unsightly, but a real and serious evil.

It has been estimated that the mean quantity of fat in the body of a man should be about one-twentieth of his weight, and in a woman about one-sixteenth; but from what we have said, it is obvious that the proportion must be subject to great fluctuation.

Obesity is not peculiar to any particular period of life. Age, however, does undoubtedly exercise a considerable influence on the production of fat—for example, children are usually relatively fatter than adults; and, again, after the middle period of life fat often accumulates in large quantities. Females are more predisposed to the occurrence of obesity than are men, and women who have never borne children seem to be more frequently affected than those who have had several pregnancies—or rather perhaps, we should say, than those who have had the cares and anxieties of bringing up a large family. It is said that hereditary tendency exercises a marked influence in the production of corpulence, and this statement is in conformity with our every-day experience. Race, again, is an important element in the question: the Americans are remarkable for their thinness, and the Arabs are almost destitute of fat; whilst on the other hand Europeans, and more especially the English and Dutch, are proverbial for the fulness of their figures. In Hottentot women, fat accumulates largely in the neighbourhood of the posterior region, so as to form a considerable prominence; and it is said, we know not with what truth, that if they fall down on the side of a hill they experience considerable difficulty in getting up again. Individual peculiarity or idiosyncrasy comes in as an important factor in the production of obesity. Some people are naturally fat, others lean; some become corpulent on a moderate diet, others remain thin when reared in the midst of plenty and in the lap of luxury. Over-feeding will in the majority of people induce fat, and so will the habit of taking a great deal to drink, though it be only water. Fat people are not always great eaters, but they have invariably a great capacity for imbibing fluids. Farinaceous and vegetable foods are fattening, and sugar in all forms is an especially powerful agent in the production of fat. In sugar-growing countries, the negroes and cattle employed on the plantations grow remarkably stout while the cane is being gathered and the sugar extracted. During this harvest the

saccharine juices are freely consumed, but when the season is over the superabundant fat is gradually lost. Ease of mind and repose of body are conditions highly favourable to the formation and accumulation of fat, and so are insufficient exercise and indulgence in much sleep. Anxiety, fretfulness, and that condition to which we refer when we say a person is "fidgety," have a directly opposite effect.

It has been found that when diet and exercise are opposed to each other, diet is the stronger. The story is told of a publican living near Newmarket who indulged himself immoderately in eating and drinking. To keep the result of this intemperance in check he took a great deal of exercise, and twice a week he swallowed two ounces of Epsom salts, which always had the effect of making him more hungry. He grew to be prodigiously large and fat, and weighed 392 pounds or 28 stone. His case also serves to illustrate the occasionally beneficial effects of a reverse of fortune, for he failed in his business; and in one year from that time was reduced, under hard work and harder fare, to the weight of fourteen stone, with no suffering whatever to his health.

The consequences and inconveniences of obesity are often more serious than is generally believed. For directing the attention of the public to this subject we are in a great measure indebted to the late Mr. Banting, whose widely read "Letter on Corpulence" is probably familiar to most of our readers. In August, 1862, that gentleman was sixty-six years of age, about five feet five inches in stature, and weighed fourteen stone six pounds (202 pounds). He tells us that none of his family on either side exhibited any tendency to obesity, and that during fifty years' business career he had led a most active life, so that his complaint was not owing to neglect of necessary bodily activity, and did not arise from excessive eating, drinking, or self-indulgence of any kind. He describes most graphically the suffering induced by his "lamentable malady." He says that although of no very great size or weight, he could not stoop to tie his shoe, and could not attend to the little offices humanity requires without considerable pain and difficulty. He was compelled to go down-stairs slowly backwards to save the pain of increasing weight upon the ankle and knee-joints, and had to puff and blow with every slight exertion, particularly that of going up-stairs. He speaks very feelingly of the unkind sneers and remarks of the "cruel and injudicious" in public assemblies, public vehicles, or the ordinary street traffic, and of the annoyance of finding no adequate space in a public assembly, if he should seek amusement or require refreshment.

It may be taken as a general rule that obesity does not conduce to strength or longevity. It is usually followed by diminished vital power and loss of both bodily and mental activity. In many cases there are disturbances of the organs of respiration, circulation, and digestion; the blood suffers in quality; the muscles are weak and have little firmness, and the countenance is bloated and sallow.

There can never be any difficulty in recognising the condition of which we have been speaking. Sometimes the obesity is partial as in what we call "pot-belly," but in the majority of cases it is general, and affects the whole body.

We must now speak of the treatment of obesity. Mr. Banting's simple narrative of his experience proves that a proper diet is alone sufficient to remove that condition, and that the use of drugs is not necessary. He tells us that for years he

struggled in vain against constantly augmenting fatness, and that under the advice of numerous physicians he tried all kinds of different treatments without deriving the slightest benefit.

He says: "I have tried sea-air and bathing in various localities, with much walking exercise; taken gallons of physic and liquor potassæ advisedly and abundantly; riding on horseback; the waters and climate of Leamington many times, as well as those of Cheltenham and Harrogate frequently; have lived upon sixpence a day so to speak, and earned it if bodily labour may be so construed." At one time he took a course of ninety Turkish baths, but never during the whole of the treatment managed to lose more than six pounds in weight. On another occasion he was recommended to take increased bodily exertion before his daily labours began, and with that object he lived near the river, and tried rowing a good heavy boat for a couple of hours every morning. The only result was that he gained in muscular vigour, and with it a prodigious appetite which he was compelled to indulge, and consequently increased considerably in weight instead of getting thinner. At last, his hearing being greatly impaired, he went to a well-known aural surgeon, since dead, who advised him to abstain as much as possible from fat or fat-making articles of diet. Thereupon he almost abandoned the use of bread, butter, sugar, beer, and potatoes, eating freely and fully, however, of other kinds of food. In this way he was reduced many inches in girth, and lost in thirty-eight weeks thirty-five pounds in weight. In addition he improved wonderfully in general health, comfort, and symmetry, and the improvement was permanent.

The following is, with a little modification, the plan of dietary adopted by Mr. Banting.

Breakfast (about 8.30 a.m.).—Four or five ounces of beef, mutton, kidneys, boiled fish, bacon or cold meat (except pork or veal), or a couple of eggs (not hard boiled), a large cup of tea or coffee (without milk or sugar), a little biscuit, or an ounce of dried toast, brown bread, or crust off a common household loaf.

Dinner (about 1 p.m.).—Five or six ounces of any fish (except salmon, herrings, or eels), any meat (except pork or veal), any vegetable (except potatoes, parsnips, beetroot, turnips, or carrots), one ounce of dry toast, or crust from the loaf, fruit out of a pudding (without sugar), any kind of poultry or game, and two glasses of dry sherry, or three of good sound claret (champagne, port, and beer are forbidden).

Tea (about 5 p.m.).—Two or three ounces of fruit, a rusk or two, and a cup of tea (without milk or sugar).

Supper (about 8.30 p.m.).—Three or four ounces of meat or fish, and a glass or two of claret.

On rising in the morning Mr. Banting was in the habit of taking a "special corrective cordial" containing a drachm of aromatic spirits of ammonia, and ten grains of carbonate of magnesia, with the object of obviating any tendency to gout.

This plan of treatment is in many cases undoubtedly a good one, but it should not be adopted indiscriminately. Mr. Banting gives a very sensible bit of advice when he says, "I do not recommend every corpulent man to rush headlong into such a change of diet (*certainly not*), but to act advisedly, and after full consultation

with a physician." We have heard of cases in which a too close addiction to "Bantingism" has been followed by very unfavourable results.

With obesity, as with most other things, prevention is better than cure. It will be found in the great majority of cases that if a man increases much in weight between the ages of thirty and sixty he is either eating or drinking too much, or is less active in body and mind than he should be. Before resorting to Bantingism he should try if he cannot bring himself down by giving up wine, spirits, and beer, by lessening the amount of food by one-third or even more (without altering its nature), and by taking more exercise. This plan will often lessen fat without reducing the strength or injuring digestion. Should this fail after a fair trial, Mr. Banting's plan, either in its integrity, or in a somewhat modified form, should be cautiously adopted.

We know of no drug, or combination of drugs, which will cure obesity without injuring the health. Of course, the unexpectedly favourable result of Mr. Banting's experiment was not in any way due to his morning draught. At one time it was quite the fashion to take potash and other alkalies to diminish fatness. The result of this method of treatment is that the mucous membrane or lining of the stomach becomes disorganised, the appetite is lessened, and food is not assimilated. There is no doubt that it will indirectly by this means cause considerable wasting of the body, but it is surely very injudicious to damage the health, and perhaps endanger life, with this object. Vinegar is also employed by many people for the same purpose, but it acts in exactly the same way, and its use cannot be too strongly condemned.

It is very essential that every one who undergoes a course of treatment for obesity should be regularly weighed, and that a careful watch should be kept on the condition of the general health. Particular care should be taken that the appetite does not fail, the power of digestion fall off, constipation ensue, the action of the heart become enfeebled, or the blood get impoverished. As a rule, it is not advisable to diminish the weight at a greater rate than a pound a week, and the experiment should not be carried too far.

OBSTRUCTION OF THE BOWELS.

Obstruction of the bowels is a fearful disease, which may arise from a great number of different causes. It is a very much more serious complaint than mere constipation; on the one hand we have to deal with a condition which usually yields to a little judicious treatment, whilst on the other we have a disorder which too often defies our best efforts.

The causes of obstruction are many, and often it is quite impossible to distinguish between them during life. The ordinary contents of the bowels, however unwholesome and indigestible they may be, seldom give rise to a permanent stoppage, and even hard, foreign bodies, such as coins, bits of bone, teeth, marbles, plum-stones, and the like, generally traverse the intestines without doing any harm. Pins and needles have been known to prove equally innocuous. Unfortunately, however, foreign bodies occasionally form accumulations sufficiently bulky to obstruct the bowels. The case is recorded of a French soldier who was seized with all the

symptoms of obstruction fifteen or twenty days after gluttonously swallowing some pounds of cherries, stones and all. He died, and on opening his body a mass of cherry-stones, almost as big as a man's fist, was found completely blocking up the bowels. Sometimes a large gall-stone may prove fatal in a similar way. Insoluble matters in the form of powders or of fibres when habitually swallowed, even in small quantities, are often concocted into hard masses. Sometimes a collection of purgative pills may give rise to trouble. It is astonishing, however, what a lot of pills some people will swallow without seeming any the worse for it. In a recent breach of promise case it transpired that the defendant, a clergyman, had taken five pills a day for a period of over thirty years—and he survived. Round-worms have been known to cause obstruction; sometimes there are great numbers of them, and they may be twisted up together so as to form a big ball. If in such a case it were possible to ascertain the nature of the obstruction, probably little difficulty would be experienced in effecting a cure.

Sometimes the obstruction is due to stricture of the bowel, and then the hopes of a favourable termination are indeed small. The stricture may possibly depend on some condition of spasm which is merely temporary, but the contraction of the bowel is far more likely to have risen from the healing of some old ulcer, or it may be from the deposit of cancer or some other malignant growth in the wall of the intestine. We have already seen that in typhoid fever we get ulceration of the bowel, but fortunately the healing of these ulcers seldom or never give rise to stricture, probably because they are too small. Children are sometimes born with stricture of the bowel, or even without any passage.

Occasionally the bowel is obstructed by something pressing on it from the outside. In rare cases there has been some tumour connected with the womb or some other organ which has given rise to the mischief. Sometimes the bowel may become what is called "strangulated," or constricted internally, a knuckle of the bowel being nipped in some little hole in the tissue so that nothing can pass through it. In other cases, what we call "intussusception," or "invagination," takes place, one part of the bowel being drawn into another portion, just as the finger of a glove can be made to glide within itself. The passage of the gut then gets more or less obstructed by the congestion and inflammation which result. Usually the intussusception is single, though three or four, or even ten, distinct invaginations have been found in the same subject. This kind of obstruction is most common in children, and also in old age. Perhaps one of the most frequent causes of obstruction is a rupture, and consequently in every case of obstinate constipation a careful examination would have to be instituted by the doctor of those parts of the abdomen, thigh, and hip through which the intestines could protrude.

Such are the chief causes of this fearful malady, and we should be thankful that the complaint is not more common, for there are few cases of disease more painful to witness than those resulting from invincible obstruction and closure of the intestinal tube.

Next as to the symptoms. Sometimes the attack is quite sudden, and the patient experiences a sensation as if something had gone wrong in his inside. At others the onset is gradual, and there is nothing to indicate anything at all

serious. What happens is often of this kind: A person thinks it expedient to take some aperient medicine. This has no effect, and he repeats the dose. It causes pain and griping, and probably sickness as well, but still the bowels are unmoved. Then, perhaps, something stronger is tried, such as jalap, or calomel, or eleterium, or croton-oil, or injections are given, but all in vain. The patient is often conscious that food or medicines reach a certain spot, and there stop. Very often they are rejected, or if they are retained they only serve to augment the feeling of anxiety and distress. The abdomen gradually becomes distended, especially if the patient is able to retain food. The intestines act powerfully, and do their best to overcome the resistance, but their efforts are in vain, and often give rise to the most agonising pain. Sometimes the great coils of intestines can be made out through the abdominal wall rolling over and over like a lot of snakes. Vomiting soon sets in, and everything may be rejected. After a time the vomited matter becomes "stercoraceous," that is, it has the odour and appearance of a motion. If relief cannot be afforded, the sufferings of the patient are often very great, and his mental distress is agonising. In fatal cases the mind is usually clear to the last, the sufferer's attention being intently and distressingly riveted upon the possibility of obtaining relief.

When the obstruction is in the upper part of the intestines, and our treatment fails to remove it, death usually ensues in a period varying from five to ten days, but when occlusion occurs lower down life may be prolonged for a much longer period. Cases are on record of patients having lived on without any evacuation of the bowels for four, or five, or even six weeks. It is in these protracted cases that recovery occasionally occurs spontaneously.

What should be the treatment of obstruction of the bowels? In the first place, the attendance of a medical man is absolutely necessary—in fact, we know of no disease in which skilled assistance is of more importance. Whenever there is obstinate constipation which cannot be overcome by ordinary purgatives, you should bear in mind the possibility of there being some obstruction. If you are in any doubt, send for the doctor. In any case in which you are convinced that there is a mechanical obstruction to the use of the bowels, you should at once cease giving purgatives. To persist in the use of powerful purgatives under these circumstances is to inflict wanton and needless suffering on the patient. You must remember that the bowel is already contracting powerfully, and requires no stimulating. Rather should an endeavour be made to moderate the propulsive force, and relax spasm by the administration of opium. A dose of laudanum will often do more to relieve the patient's sufferings and to produce an evacuation than any quantity of calomel or colocynth.

With the view of averting, or at all events postponing, the distension of the bowel above the seat of obstruction, it is necessary to limit the amount of fluid taken by the mouth, and to regulate its kind. The nutriment should be liquid, and small quantities only should be given at a time. Large injections gradually and gently introduced into the bowel, and repeated three or four times a day, often prove of great value. When the obstruction is due to some hard mass, they may in time succeed in breaking it down, or at all events by

fomenting the obstructed part, they may facilitate the passage of fluids which have accumulated above. Moreover, if these enemata are composed of beef-tea or milk, and are retained as long as possible, they serve materially to maintain the strength of the patient. Injections of very large quantities of warm water have sometimes been attended with the happiest results. Fomentation of the abdomen externally by large hot poultices, of gentle friction of the surface with warm oil, may do good. All manipulation must be performed with the greatest care and gentleness, for you might easily rupture the thin, distended bowel by rough or careless handling.

But should these remedies prove unavailing, can nothing more be done? Yes, life may sometimes be reprieved by a surgical operation. Inflation of the obstructed gut by the injection of air into the bowel has been practised with success. In the case of a young lady, about ten years of age, inflation was performed on the fifth day after the setting in of symptoms of acute intestinal obstruction, supposed to depend on intussusception. The proceeding was followed by perfect success, the patient felt "as if a bone had broken" in her abdomen, the obstruction was removed, and motions followed in three hours, although all previous treatment had failed. Other methods of treatment are sometimes resorted to. The gut may be punctured above the seat of obstruction and allowed to discharge its contents through what is known as an "artificial anus." There are at the present time many people living and in good health whose lives have doubtless been prolonged by this operation. Occasionally the abdomen has been opened with the view of disentangling or setting free the intestine strangulated within. It should always be remembered that in cases apparently hopeless a spontaneous cure sometimes takes place almost at the last moment, and that the more protracted the duration of the disease the greater are the chances of recovery.

OFFENSIVE BREATH.

Nothing can be more disagreeable than an offensive breath. In health the breath should be perfectly sweet and tasteless. We have already had occasion to refer incidently to the condition of the breath in several disorders. Thus we have seen that in diabetes mellitus it has a peculiarly sweet odour, which has been likened by some to the smell of chloroform, and by others to that noticed in an apple-room. In Bright's disease the breath may acquire an odour of sal-volatile, or it may resemble that of the urine, especially when the patient is suffering from the condition known as uræmic poisoning. During the progress of most fevers the breath is not only disagreeable but infectious. In malignant sore throat, in scurvy, and in people who have been salivated by mercury, the breath is often extremely disagreeable. But probably the disease in which the breath becomes most offensive is gangrene of the lung. This condition sometimes occurs in the course of advanced consumption, and its onset is only too readily recognised by the foul smell of the breath.

In the majority of cases, however, offensive breath occurs not in the course of any of these diseases, but simply as the result of indigestion or want of attention to the teeth. The advertising dentist usually draws a ghastly picture of the horrors of

an offensive breath, the moral being, of course, that you are to go to him and have your teeth set to rights. His hint is by no means to be despised, and there is no doubt that one of the commonest causes of offensive breath is the presence of decayed teeth in the jaw. The sooner they are stopped or taken out and replaced by new ones, the better. But even when the teeth are sound they may, from want of attention, taint the breath. It is an excellent plan to clean the teeth with a soft brush after every meal. In the case of men, who during the greater part of the day are out and at work, this may be impossible; but surely in the case of young women, who are at home all day, it is no great hardship. At all events, the teeth should be brushed inside and out at least twice a day, morning and evening. The addition of a few drops of Condyl's fluid to the water is useful. Camphor may advantageously enter into the composition of any dentifrice that may be employed. When dyspepsia is present it should be removed as soon as possible, not only for the sake of the breath, but for the general health as well.

Most of us are acquainted with the peculiar smell of the breath observed in people who are addicted to the abuse of ardent spirits. It is not actually the odour of the gin, or brandy, or rum, or whatever it may be, that one perceives, but it is something over and above this. It is a sour, acid, "vitrioly" smell, which is very characteristic of the tippler. You may even notice it through the odour of the fresh spirits. Then, again, the breath of the tobacco smoker is often none of the sweetest, and we are all disposed to give a wide berth to any one who has been indulging in onions or garlic.

The treatment of offensive breath consists essentially in the alleviation of the condition on which it is dependent. In many cases the care and skill of the dentist will do more for you than will medicine. If you have artificial teeth, you should see that no preparation of mercury, such as vermilion, is used in the colouring of the india-rubber framework, now so commonly employed. Several cases of injury from local mercurial poisoning have been recorded of late years from the red frames used to imitate the gums. When the condition of the breath depends on the stomach, the rules laid down for the treatment of dyspepsia should be consulted. A dose of wood-charcoal taken three times a day for a week or ten days often proves beneficial (Pr. 75), or *nux vomica* may be used with advantage (Pr. 44). When the offensive breath is associated with, if not dependent on, a sore or ulcerated mouth, small doses of mercury according to Pr. 48 will prove the best treatment. In many cases perfumed carbolic acid used with water as a wash for the mouth proves useful.

OLD AGE.

Old age, although not strictly speaking a disease, presents many points of interest that may fairly occupy our attention. As life advances, the tissues become more condensed, the bones firmer, the cartilages harder, and the articulations closer; the muscles fail in their tension; the organs of the senses lose their refined adaptations, and the skin falling into wrinkles and folds loses its colour, softness, and elasticity. But these cannot be regarded as phenomena of disease, for they belong as naturally to the declining period of life as certain phenomena of development—the cutting

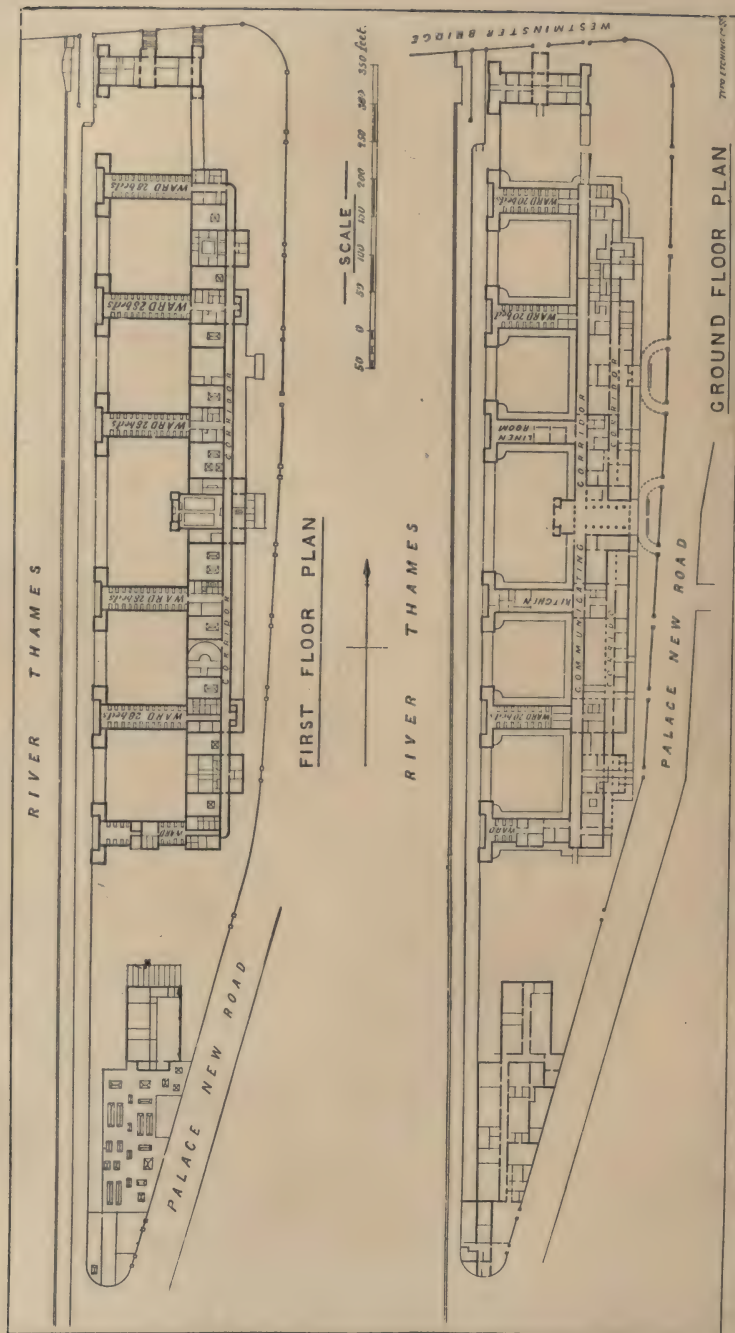
and the shedding of the teeth, for example—belong to infancy and childhood. Some people as they grow old seem only to wither and dry up—sharp-featured and shrivelled old folk, yet withal wiry and tough, clinging to life and letting death have them, as it were, by small instalments slowly paid. With others—women more often than men—the first sign of old age is that they grow fat, and this abides with them till, it may be, in a last illness sharper than old age, they are robbed even of their fat.

Death by extreme old age may in many instances be considered as the desirable end of a long continued and perhaps weary journey. The sufferer falls asleep as he might do after severe fatigue, and the long pilgrimage of life is brought to a close with little apparent derangement of the ordinary mental powers. Without pain, anger, or sorrow, the intellectual faculties lose their brightness; ambition ceases or is merged into the desire for repose; ideas of time, of space, and duty, lingeringly pass away; to sleep and not to dream is the pressing and still more pressing need, until at length it whiles away nearly all the hours. The awakenings are short and shorter, painless, careless, happy awakenings, to the hum of a busy world, to the merry sounds of children at play, to the sounds of voices offering aid, to the effort of talking on simple topics and recalling events long since past, and then again to overpowering sleep. The final scene is often brief, and the phenomena of dying are almost imperceptible. The senses fail, as if sleep were about to supervene, the perceptions become gradually more and more obtuse, and quietly and calmly the long last journey is undertaken, so that we can scarcely tell the precise instant at which the solemn change from life to death has been completed. It would seem that the act of dying may be as painless as that of falling asleep; indeed, those who have recovered after apparent death from drowning, and after sensation has been completely lost, assert that they have experienced no pain. The mind at the solemn moment may be absorbed in an instantaneous review of those impressions made upon the brain in bygone times, which are said to present themselves with such overwhelming power, vividness, and force. This purely painless process, this descent by oblivious trance into oblivion, is the true euthanasia—the sequel of health, the happy death engrafted on the perfect life.

So much, then, for euthanasia; a death like this may be desirable, but, practically, the majority of us like to live as long as we can, and we may advantageously consider what steps we may take, when advanced in years, to prolong life and preserve our faculties unimpaired.

In the first place old people have undoubtedly certain advantages over their younger brethren. They have passed the ordeal of epidemics, and if they have never had scarlet fever or whooping-cough, they are not likely to catch it now. Then, too, they have passed the age at which consumption and many other diseases are developed, and so far, as we have said, they have a decided advantage. But on the other hand, old people, and those who have lost their teeth, run some risk of not being sufficiently nourished in consequence of swallowing their food too rapidly. They are often hurried over their meals, through the thoughtlessness of those around them, and since they chew slowly, and secrete saliva slowly, the food remains undigested. Their juniors should know this, and, remembering it, should govern





GROUND AND FIRST FLOOR PLAN OF ST. THOMAS'S HOSPITAL.

themselves accordingly. The story is told of a lady—a kindly British matron—who, on being remonstrated with for spending more hours at table than was good for her, replied that if she did not do so she would be a widow in a week, and that she habitually ate too much to keep her aged husband in countenance.

It is of primary importance that, for old people, the meat should always be of the best quality, and as soft and tender as possible. When the teeth are gone and no artificial substitutes have been provided it should be cut up finely, or may even be minced. Vegetables should not be over-softened in cooking, and there should be sufficient resistance in them to make chewing imperative, so as to excite the secretion of the fluids of the mouth, which is so essential for proper and easy digestion. There can be no doubt that in the decline of life fermented liquors are more advantageous than in early manhood. It is strictly in accordance with the teachings of physiology to increase as years grow upon us the moderate quantity of stimulant we have been accustomed to take. Elderly people are able to do with less sleep than youngers, and need not be alarmed at a certain shortening of their night's rest, which is only natural. But sometimes this is carried too far, even when the health appears to be perfect in other respects, and they get worn out with restlessness, and rolling about. This inconvenience may often be obviated by taking a little food and stimulant the last thing before going to bed. A sandwich and a glass of stout will make an excellent night-cap, and will often ensure a refreshing night's rest. Sometimes an egg beaten up in a little brandy-and-water or brandy-and-milk will succeed equally well. Some people like malaga, and others like a glass of burgundy or port, warmed, spiced, diluted, and sweetened. Many people take gruel or arrowroot every night of their lives, but the custom is not a good one. We may be wrong, but we always think they take it because, to use a popular but suggestive expression, "it is filling at the price." It undoubtedly contributes to length of days to associate as much as possible with young people, and to adopt such habits and manners as may attract rather than repel them, to which there is too often a temptation in old age. Grandchildren are not to be despised, for the best companions are those whose spirits are high and joyous, if we can only induce them to rally round us, and infect us with their life. There is nothing more conducive to a long life than ease of mind, contentment with the present, and a calm confidence in the future. It is not hard work that kills the active, nor idleness that kills the man of leisure, be he old or young, but worry and *ennui*.

The influence of mental emotions upon digestion must not be forgotten. Bread eaten in sorrow remains unabsorbed ; and it is not without reason that even from the earliest times, and amongst the most barbarous nations, companionship during meals has always been sought. It is not only painful reflections which disturb digestion, but any concentrated thought is equally injurious, and injurious in close proportion to the intellectual powers of the individual. The cleverer you are the greater the necessity for taking your meals in company. To the brain-worker cheerful distraction at meal-times is an imperative necessity, the habitual neglect of which entails chronic disease and the early failure of the digestive powers. The adjuncts of family meals should be made as agreeable as possible. A change of clothes, clean hands,

and courteous manners, should not be reserved for company, but enforced as a daily habit. Table decoration is not to be despised, and the cook should be encouraged to make her dishes as attractive as possible. The forms of animals, and, in fact, anything which makes us remember that the food has been a living animal at all, should never be conspicuously displayed, but covered with such vegetable garnish as is capable of harmonising with the character of the dish. Many people have a great objection to seeing such things as calves' heads on the table on purely artistic grounds. Ease of mind and ease of body are requisite for complete digestion. Muscular exertion should be avoided immediately before and immediately after all substantial meals. The best employment after dinner is light conversation or music, accompanied by such gentle sauntering movements as are encouraged by a well-ventilated drawing-room. A cigar or cigarette is often a great help to digestion. After a night's rest and the long fast which has emptied the digestive organs, food should be taken before any of the material business of the day is begun. Work done before breakfast is more tiring, and is not done so well as after the stomach has been fortified. The hour of rising should regulate the hour of breakfast. It is no proof of vigour to forego breakfast without inconvenience, but, on the contrary, it is a great point to be able to lay in a good foundation for the day's labour. The weak and feeble, as well as those advanced in years, will find it a good plan to have a cup of tea, with some dry toast or bread-and-butter, before attempting to get up. Many people prefer a tumbler of milk with a table-spoonful of brandy or rum in it; but we should certainly recommend the hot cup of tea by preference. In winter it is not a bad plan to have a fire to dress by, especially when the process of shaving has to be gone through.

People as they get older often suffer from torpidity of the bowels, and constipation is with them a constant source of trouble. The practice of taking aperient pills is a bad one, and it is much better to effect the desired object, when possible, by a little attention to diet. Many people can ensure an evacuation by taking every morning on getting out of bed a tumblerful of cold water. The draught may be made more palatable if a few cloves have been placed in a tumbler over night, and had boiling water poured on them, so as, in fact, to make a weak clove tea. A good way of keeping the bowels in order is to indulge in a little extra fruit, and the best time to take it is an hour or so after breakfast. Apples are rather heavy, but a nice ripe pear or a couple of oranges will often succeed admirably. Grapes, currants, blackberries, and barberries may be indulged in for a change. Many people like bananas. Roast apples and stewed prunes are much better suited than pastry as a second course in the condition now under consideration. Some people like stewed prunes with meat. Figs can be eaten either cold or in a pudding. Green vegetables should be indulged in freely, and watercresses, dandelion, and lettuces may be eaten *ad libitum*, provided only that they can be obtained fresh. Two tea-spoonfuls of salad-oil taken at bed-time will prevent that drying and hardening of the contents of the bowels which is so frequently a source of inconvenience. When these remedies fail it is a good plan to substitute coffee for tea at breakfast, and brown bread for white. Porridge is an excellent breakfast for those who like it. The coarsely-ground Scotch oatmeal should be used. "Mix

two table-spoonfuls of it with a small tea-cupful of cold water, till it is of uniform consistence. Then pour in a pint of boiling water, and keep boiling and stirring it for forty minutes. It is then fit to eat, but may be kept simmering till wanted if a little more water be added as the other steams away. It should be served in a soup-plate quite hot, and cold milk added to reduce it to an eatable temperature." With these means at our disposal no difficulty should be experienced with the bowels.

Of course the fact will be at once recognised that the number of years a man happens to have lived in this world is no guide to his real age. Some people are still young at sixty ; others are old at forty. We do not all live at the same rate, some live slowly and quietly, suffering but little wear and tear ; others live fast, and soon find that the pace tells. Nowadays we live faster than we did a century or two ago. If one of our ancestors were suddenly resuscitated and made to undergo the toil and mental labour we do, he would soon give in. The life of an intelligent man, who would keep on a level with his compeers of the present day, is equivalent to at least a dozen lives of a former age. What is expected of mere boys in this competitive age was not required of wise, full-grown men of old. Take the example of a senior wrangler. Even Newton ignored the scope of mathematical science which a senior wrangler must now possess, and how hard such men must work and over-work themselves is evident from the small number who are ever heard of again, or succeed in the real battle of life. They are "played out" before they are thirty, and one feels inclined to agree with the common remark that a senior wrangler is generally one of the worst educated men in England. Few of the successful men of this or any other age rest upon the laurels gained in their early years, and under the exhaustive modern system few or none, after success in examinations, have energy enough left to begin the real work of life. Most of them are content with the honours they have gained, and sink back breathless with the effort. There can be no doubt that at present society is following a course which must inflict irretrievable damage upon our children, and those who are to come after them. Health and education do not go, as they ought to go, hand in hand. "The whole head is sick, and the heart faint ;" for as the frantic passion for over-instruction affects the body it reacts upon the mind. The child who has been a victim to excessive education during the period of immaturity is never intellectually strong, and is generally feeble in physique, in adolescence, and early manhood. In these days there is a strain after knowledge, a frenzy of emulation in acquirement, such as the world never saw before. The world has produced great men in abundance in every generation, in every sphere of activity, in every combination of circumstance. But always, hitherto, the one indispensable condition was present, the condition of unfettered development. The appearance of the great men of the past in literature, art, and science, was natural, because nature in their case was free and untrammelled ; but the appearance of such men in similar greatness under the present educational system is well-nigh impossible. The theory, or at any rate the practice, of modern education is to supply an unlimited quantity of knowledge in early life, when both the mental and the physical powers are immature. It is like trying to improve the healthy action of the stomach by a system of over-eating.

Symptoms of over-work and premature old age are often seen in quite young children. Children are set to study even before they have learnt to play. Before the age of seven a child's work should be principally play, though play judiciously guided and varied, as it is under the Kindergarten system, may be made to impart a great deal of useful learning, without resort to a book or formal lesson. Too often we find that children from the tenderest age are kept at school for six hours a day, and have lessons to prepare at night in addition. Only the other day we saw in the hospital a little girl, aged thirteen, who was suffering from St. Vitus's, which had undoubtedly been brought on by over-work. She was attending a school where she was taught "French, physiology, grammar, analysis, British history, writing, spelling, arithmetic, freehand drawing, needlework, and maps," besides several other subjects of which she had forgotten the names. She was a day scholar, and had lessons in the morning from nine till twelve and again in the afternoon from two till half-past four. Besides this she had work to do at home. She began again directly after tea, and worked up to ten or eleven at night. She had been doing this for over a year, and during that time had hardly had a day's holiday. If this is not cruelty, we do not know what is. No doubt some of these poor little unfortunates grow up precocious, and are thought by their proud and doting parents to be "clever." But the results are no longer any matter of doubt. As a recent writer says—"These precocious, coached-up children are never well. Their mental excitement keeps up a flush, which, like the excitement caused by strong drink in older children, looks like health, but has no relation to it. Their tongues are furred; their appetites are capricious; all kinds of strange foods are asked for, and the stomach never seems to be in order." If an over-worked child continue to be over-worked, more alarming physical symptoms quickly appear. "The frequent flush gives way to an unearthly paleness; the eyes gleam with light at one time and at another are dull, depressed, and sad, and are never laughing eyes. The brightness is that of thought on the strain, and it often presents a dangerous phenomenon. The muscles are flabby; the sleep is restless, and disturbed with nightmare, or perhaps somnambulism." As the victims of over-education grow up to boyhood or girlhood these physical evils are complicated by others of a moral or intellectual character. "Clever" boys and girls, but especially boys, continue to be over-worked, and in the period of approaching and attaining puberty, over-work hurries thousands of unrecognised victims to the grave. No farmer would think of over-working a growing horse, and yet parents and teachers combine to drive lads and lasses between thirteen and eighteen into an endless series of competitive examinations, the severity of which is every day increasing. Sometimes a mistake is made in not recognising the natural quality or bent of the pupil's mind, and still more frequently irremediable injury is done to his spirit in sending him into a competition in which he stands not the ghost of a chance. These intellectual gymnastics are a great mistake. Even the successful are deeply to be pitied. "The prize system is bad fundamentally. In the matter of health, that system stands at the bar guiltiest of the guilty. We have but to go to a prize distribution to see in the worn and languid faces of the successful the effects of the system, and there we do not see a tithe of the evil; we have not seen the children before the competition, nor do we see them after it, nor between the competition and the

announcement of the awards. If we could see all the changes incident to these events, we should see what a mad system it is, and should understand how much the dull are to be envied, rather than the successful and the flattered and triumphant." With this opinion we cordially agree, and regret that a knowledge of these facts is not more widely distributed. The symptoms of premature old age in the adult are not difficult of recognition. They are in the main those of exhausted nervous power, that is to say, general debility of the body, inability to walk even short distances without fatigue, a feeling of languor and unwillingness for exertion of any kind. In addition there are well-marked mental symptoms, and generally some previously unnoticed peculiarity develops itself in the character of the affected person. A man formerly generous and reticent may become intensely selfish and garrulous. Without any apparent reason he takes likes and dislikes to those with whom he is associated, especially to his best friends and nearest relatives, whose motives he invariably insists on misunderstanding. He is subject to uncontrollable fits of moroseness and bad temper. A previously careful man becomes unusually liberal, even extravagant. A man who all his life has been remarkable for his modesty and retiring disposition puts off all reserve and makes himself intensely disagreeable to everybody, or does something that astonishes beyond measure all who know him. Not unfrequently in this condition there is an utter inability to fix the attention on any one subject. Even in reading the thread of the story or argument is lost. The memory becomes strangely defective, and is often so bad that when the unfortunate patient leaves the room to go to another to fetch something, he has quite forgotten all about it on his arrival there. You may find him, too, on his hands and knees searching on the carpet for something he has just dropped; ask him what he is looking for and it is ten to one that he will not remember. Sometimes not only is there an entire inability to arrange the ideas in order, but the judgment becomes curiously perverted, a serious matter when the subject of this change holds a position of trust and responsibility. Sometimes a remarkable indifference to veracity becomes manifest in persons previously noted for their truthfulness, and in others we find a craving for strong liquors, which they find it well-nigh impossible to resist. Often enough there is an undue excitability of the senses, the hearing for example, becomes intensely acute, so that the noise of a door slamming in the street is almost unbearable. Then the sight may become strangely impressionable, bright colours are intensely disagreeable, scents are odious, and the taste is completely altered.

There is only one treatment for the condition that we have described, and that may be summed up in the one word, "rest." When a man is living too fast, when he is suffering from constant worry and anxiety, when he is wearing himself to pieces, there is only one thing for him to do, and that is to stop. It is of no use for a man to say that it is impossible for him to pull up, for he must, or he will very soon find that he will break down completely and entirely. A six weeks' holiday, if taken in time, will often set a man on his legs again, and enable him to go on with his work for months, or even years; but should he fail to take Nature's warning, she will have her revenge, and he may have to pay dearly for his temerity. Sometimes something may be done in the way of obtaining a temporary change of employment. For example, the over-worked doctor may get a travelling appointment

with some rich patient, or he may be able to exchange the worries and anxieties of practice for literary work. Rest does not so much mean absolute idleness as change of occupation. As adjuncts, bromide of potassium (Pr. 31) or phosphorus (Pr. 53 or 54) may prove useful, but the real and only true treatment is rest. If you are pulled down from any cause there is nothing like taking a holiday, and there is no surer means of warding off that complaint of which we are all so much afraid—"old age."

It must be understood that it is not work that we condemn, but over-work. We should be the last to underrate the importance of real honest work. In fact, a certain amount of work is necessary for the maintenance of health. The enervating effects of inactivity upon the physical structure and energies of mankind few can have failed to observe. Rust is more fatal to metal than wear. A thorough-bred racer, if confined in stable or paddock, or a boxer, born of the finest muscular make, if permanently incarcerated in gaol, will, after a few years, become quite unable to compete with those vastly their inferiors in natural endowments and capabilities. This is equally applicable to the temper and intellect of man, which, secluded from the scenes of appropriate stimulus and exercise, become relaxed and weakened. What would have become of the glorious spirit and powers of Achilles if his days had all melted away in the tender, delicate, emasculating inactivity and indulgence of the Court of Lycomedes? Work, then, but work in moderation, and work judiciously.

PAIN IN THE MUSCLES, OR MYALGIA.

This is an affection with which we are all more or less familiar. We commonly speak of it as "cramp," "stiffness," "soreness," or "aching." It is the almost constant result of any unusual or unusually prolonged muscular exertion. Every schoolboy remembers his first ride, and every athlete his first day's training. The traveller remembers how stiff and weary he feels after a long day's journey in a jolting carriage, and the mountain-climber knows how sore he is after ascending any considerable eminence for the first time in the season. It is from pain in the muscles that the seaman is suffering when he complains of how his eyes "burn" after many an hour's weary look-out for land, especially when the duty has to be performed at night.

It might be thought that this affection must of necessity be confined to men, or at all events to them and to those of the fairer sex whose habits and pursuits are more or less Amazonian in their character. Such, however, is by no means the case, and we do not wonder at it, for the fact is that few people have any idea of the amazing amount of work which women of the middle and poorer classes of life have often to get through in the course of the day. From the first thing in the morning to the last thing at night they are always on their legs, washing, dressing, scouring, making the beds, shaking the carpets, sweeping, ironing, sewing, darning, clearing up, dusting, looking after babies, &c. &c. All these acts require muscular exertion, and this is sometimes excessive in degree, yet from their very insignificance, and their daily occurrence, they are too often completely ignored. It is common enough to hear a man say that "the missis is a rare good un, she's always at it," but he would, in all probability be considerably surprised to hear that she, in her quiet way, does

almost as much physical work in the course of the day as he does. When we see a woman sewing it very seldom occurs to us that the muscular exertion requisite for the performance of the act may, if carried too far, give rise to considerable pain and suffering, yet, for all that, the hard-worked sempstress knows well enough what it is to stitch, stitch, stitch, till her "eyes ache" with watching the needle, and the muscles which move the eyeball are thoroughly weary. Again, pregnant women often complain of the pain in the back resulting from the effort to keep about all day with the weight of an extra burden to support. Many ladies are familiar with the severe pain known as a "cutting-out pain," the result of the unusual strain thrown upon the muscles of the back in leaning over a table to cut out patterns. The amount of work which ladies, in even the upper classes of society, will get through in the course of the day and night is really something wonderful, and it is no wonder that they occasionally suffer from pain and stiffness in their limbs. Not very long ago a well-known physician was called up at three o'clock in the morning to go and see a young lady who was suffering from excruciating pains in her thighs and the calves of her legs. It was found on inquiry that she had been to a ball, and had danced with great spirit for six consecutive hours, the only rest which she had allowed herself being at supper. Such cases are not so uncommon as might be supposed, although the suffering is seldom sufficient to induce the patient to send for her doctor.

Sometimes this pain in the muscles is produced by acts at first sight so trivial in their nature, and in the amount of exertion which they require, that the relation of cause and effect is very apt to be overlooked. We often enough talk of "laughing till our sides *ache*," and many people habitually suffer from soreness, pain, and tenderness in the muscles of the chest and abdomen after a night spent with an irresistibly comic actor, but the true cause is often ignored, and the sufferer not unfrequently sends for the doctor under the impression that he has caught a bad cold, or that he is going to have an attack of pleurisy.

We have said that pain in the muscles is commonly the result of over-exertion. A person who is debilitated as the result of a long illness, or whose health is for any reason below par is very apt to suffer in this way, although the absolute amount of work done may be very small. A twenty-mile walk may not be over-exertion for a man in good physical condition, and he may feel none the worse for it, but, on the other hand, a weakly woman may suffer intense pain in the muscles from sitting up in bed for half an hour or so to take her meals.

In some cases attacks of muscular pain have undoubtedly arisen from excessive practice at the pianoforte. The performer commonly sits upright on a stool without the least artificial support, of course, with the exception of the corset in women; both hands are in perpetual motion; the body is moved from side to side according to exigencies of time and tune; the legs are used to work the pedals, and as singing is often combined with the instrumental music, the muscles by which the chest is moved are forcibly employed.

Custom and training will enable a person to undergo without fatigue an amount of work which he would otherwise find it impossible to accomplish. The well-tried pedestrian can laugh at the stiffness which the sedentary student experiences when

he suddenly throws off his quiet habit for more active physical work. The mason and the blacksmith toil with ease for a period quite impossible to the uninitiated ; but, set the mason on horseback, and the blacksmith to do duty as a hod-carrier, and they will both complain of stiffness, or muscular pain, on the next day.

As long as the relation between the work to be done and the power to do it remains the same, the exertion of the muscles may not be excessive, but whenever muscles weakened or reduced in power are obliged to do the same work as when they were strong, the exertion they put forth is excessive for them, the severity of the exertion being in proportion to their weakness.

It is astonishing how quickly, and by what apparently trivial circumstances, a man of even herculean powers may be "pulled down." A strong cigar or a pipe will in a few minutes reduce a person who is unaccustomed to the use of the "weed" to a condition of complete prostration. Fright will in an instant deprive a person of all power of motion, his tongue will cleave to the roof of the mouth, and he may be unable to articulate a word or even utter a sound. Most people know how quickly a sharp attack of diarrhoea "takes it out of one." A blue-pill and a black draught may in a few hours reduce the lion-hearted Richard to the level of the very lowest of the Saracen soldiery.

When one is out of health everything seems a trouble, and every little exertion gives rise to pain in the muscles. When we are well we can support the head, and keep ourselves erect all day long without fatigue ; but directly we are debilitated in any way we feel the exertion, and are glad to seek the friendly support of the sofa or arm-chair. We all know how heavy the eyelids seem when we are tired, and how difficult it then is from fatigue of the muscles to keep them open. Difficulties seem to increase as we become less able to cope with them. There is an old Spanish proverb which says that, "If you carry a lamb all day, it will become a sheep at night." It costs us no suffering while we are well to perform the ordinary work of the day ; but when illness has reduced our powers, when a refractory stomach has refused the necessary supplies of food, or when we have been brought low by accidents, loss of blood, diarrhoea, hunger, or other cause, we find the exertion excessive, and we suffer from pain in the muscles. As long as the school-girl is healthy and strong she can sit erect for hours, and at the end of the day feel weary only ; but as the influence of sedentary life, mental exertion, deficient appetite and digestion, a crowded sleeping apartment and schoolroom begin to be felt, the weariness becomes painfulness, and she is no longer fatigued, but is suffering.

There is scarcely any part of the body which may not be the seat of muscular pains, for they are to be met with wherever there are muscles or sinews. Some parts are, however, more frequently attacked than others—the trunk more commonly than the extremities, the abdominal walls oftener than those of the chest, and the legs more constantly than the arms. The pain may be felt between the shoulders, at the back of the neck, over the blade-bone, in the back, and in many other regions. Women very frequently suffer from a muscular pain under the left breast. It is sometimes situated on the right side, and is occasionally met with on both. The sufferings it involves are often very severe, and it is not unfrequently supposed by the patient to be a symptom of some very serious disease. Pregnant women often

suffer from a muscular pain, referred to a small spot about the size of a shilling just below the breast, commonly the right. The pain is pretty constant, slightly relieved by the recumbent posture, but increased by lying on the affected side; it may come on during the third month and last to the time of confinement, and from its wearing character is very apt to cause great depression. Another common seat of muscular pain is in the lower part of the body in front, and it is then sometimes erroneously supposed to arise from some disease of the bladder or womb.

Pain in the back is a very common form of muscular pain. It is readily produced by a long ride on horseback, by a long stand in a crowd, by digging or weeding in a garden, or by working in a position that requires much stooping. It is sometimes brought on by railway travelling, or by having to carry a heavy infant or other considerable weight for many consecutive hours. It is an accompaniment of many diseases, especially of those which are not sufficiently severe to make the patient lie up altogether, but are yet bad enough to considerably diminish the strength. It is often a cause of infinite trouble to those whose occupations necessitate the carrying on the head of heavy weights, such as water, stones, baskets of fish, fruit, flowers, &c., and is especially common in young men of all classes of society, whose health has been lowered by an excessive discharge or other similar cause.

Muscular pains under the collar-bones and over the front of the chest often follow prolonged efforts at vomiting or fits of coughing. In women they are not uncommonly produced by sewing, especially when the individual is unaccustomed to the work, or when the material consists of some thick, heavy substance, such as coarse calico, linen, or canvas. They are often associated with extreme tenderness of the breast, and sometimes even with slight swelling.

There is one form of muscular pain which, from the frequency of its occurrence and the ease with which, on a superficial examination, it might be mistaken for pleurisy, almost deserves a special notice. It is commonly known as pleurodynia, and is an affection of the muscles of the side of the chest. Many of us are acquainted with it under the name of "stitch in the side," and are aware that it may be produced even in perfectly healthy people, by running, or immoderate laughing, coughing, or sneezing. It is very common in delicate women, and even in men whose health has been reduced by an attack of illness or other similar cause. The pain is often confined to the left side. It is always increased by taking a deep breath, or by any movement which stretches the muscles. Before the introduction of the clinical thermometer it was frequently by no means an easy matter to distinguish between pleurisy and pleurodynia or false pleurisy. Nowadays, in the majority of cases little or no difficulty is experienced in making the diagnosis. Pleurisy is attended with fever, whilst pleurodynia is a non-febrile disease. If we take the temperature and find that it is not at all elevated, we may feel assured that it is not pleurisy from which the patient is suffering; but if, on the other hand, the temperature is distinctly raised, we are certain that we have to do with something more than mere muscular pain. Of course, the patient may be suffering from a cold, and this may be sufficient to cause the elevation of temperature, but the exercise of a little judgment usually suffices to eliminate this or any similar source of error.

Muscular pains are not unfrequently mistaken for symptoms of some disease of serious import, but there is no real difficulty in recognising the true nature of the case. The pain is usually spoken of as wearing, aching, burning, or "hot," but is occasionally referred to as a "weakness," or "soreness." In those who have much bodily fatigue for six days in the week, and a perfect rest on Sunday, the pains are always better if not absent on Monday morning, and very bad on Friday and Saturday. As a general rule muscular pains are absent in the morning, begin about noon, and increase in severity up to bed-time. They commonly cease entirely when the sufferer lies down in bed, but in bad cases they are only renewed by the recumbent posture. The pains are often attended with exquisite tenderness of the skin, so that even the contact of the clothes may be almost unbearable. They are usually traceable to over-work of some kind or other, although the circumstances which suffice to produce them are often apparently very trivial in their nature.

Having recognised the nature of the complaint, we must proceed to treat it. It is obvious that a disease which has been produced by over-exertion will be most benefited by rest—rest of the whole body, and more especially of the affected part. It is easy enough to recommend rest, but we are perfectly aware that in many cases it will be found difficult to carry out our directions. A woman very frequently cannot take sufficient rest, for the household duties fall upon her, and, as she says, "If I don't look after things, everything goes wrong." You tell a man to rest, and he says—"Rest! I only wish I could. I haven't had a holiday for years. If I don't work, who's to keep the wolf from the door?" There are a good many people who cannot rest, but there are a good many people who will not rest. Many women, for instance, are naturally too anxious, active, we might even say too fidgety, to take anything like a real rest. Men, commonly enough, recognise the fact that exhaustion, consequent upon continuous tension, invariably ends sooner or later in restlessness and irritability, but they too often neglect the great vital law of change, which runs through the whole universe, and impels the weary to cease from labour. Strangely enough the well-to-do are often the greatest offenders in this respect. It is the old story of much would have more, and thus we find the man who has a lucrative business, and who is making money fast, is the one most difficult to induce to take the urgently-needed rest. His excuses are innumerable. In vain it is pointed out to him that for his own sake, and for the sake of his family, rest is absolutely necessary. Ambition or the love of wealth leads him on, and he continues the battle until at length a crisis arrives, and then that cessation from work which might have been enjoyed at a convenient season and for a suitable period, is enforced, most probably at a very inconvenient time, upon a bed of pain and amidst sorrowing faces. Rest, to be of much service, must be thorough rest—rest, mental and physical. It is of but little advantage for a worn-down mother to go to the sea-side for the benefit of her health if she has to take all her little ones with her; or for an author to resort to the lake district with his pens, ink, and paper in undiminished array. Equally useless is it for the jaded belle to change the ball-rooms, theatres, concerts, and operas

of the town for the assemblies, dinner-parties, and picnics of the country. Rest is often useless because it is insufficient. Rest in an arm-chair, or on the sofa, may do good, but it is usually inferior to rest in or on the bed. For a delicate woman to get much benefit from rest, or to obtain relief from muscular pains, she should retire to her bedroom at two o'clock every day, and lie on her back for a good hour or more with no other companion than a readable book. If there is much constitutional debility another rest may be required about seven in the evening.

Where rest of the whole body is unattainable, it may perhaps be possible to rest the affected part. Any plan of treatment by which we rest, and at the same time support, the painful muscles will prove advantageous. We all know what relief a well-made corset or waist-belt will sometimes afford, when the pain or weakness affects the chest or abdomen, or the muscles of the back.

The fact that "stays" afford a considerable amount of artificial support to the body is easily shown by the consideration of a few simple facts. Women can, as a rule, sit upright considerably longer than men, she retaining her graceful position long after he has taken to lolling back in his arm-chair, or to exhibiting the soles of his boots on the sofa. Then again it is well known that ladies who have once accustomed themselves to the use of stays have the greatest difficulty in dispensing with their support, and that spasm or cramp is not unfrequently experienced in some of the erect-keeping muscles when they are laid aside. A person, therefore, without any artificial support is more obnoxious to muscular pain in the trunk than one who does not attempt to keep the body upright without assistance. Whilst recommending the use of stays for the relief of muscular pains about the body it must be distinctly understood that we are not advocating or defending the practice of tight lacing.

In addition to the use of stays, or in cases in which they fail to give the requisite relief, a good stout plaster applied well over the seat of pain and its immediate neighbourhood may prove more successful. It is necessary that the plaster, to do any good, should be large, and that it should be evenly applied. In some cases where a single plaster has proved useless, two or three applied one on the top of another have effected a speedy cure.

The importance of affording artificial assistance to parts that are subjected to any considerable strain is very generally recognised. We often see navvies who have to wheel heavy barrow-loads of earth, place a tight strap round the wrist, and there can be no doubt that they derive considerable help from this simple expedient. In like manner washerwomen, who have to do much wringing of clothes, apply a piece of ribbon to the same place and for the same purpose. Labourers who have much standing-work employ a belt, and the pedestrian not unfrequently ties a handkerchief tightly round his waist to prevent "stitch in the side." Swimmers sometimes use a tight garter round the calf with the view of warding off cramp.

For effecting a permanent cure, in addition to the local measures, steps must be taken to improve the general health. The benefit which may be derived from a judicious change of air and scene cannot be over-estimated. It is a commonly-received opinion, and in the main a correct one, that the change, to be of service,

must be from the bad air of town to the purer air of the country or the sea-side, but such is not always the case, for experience shows that a change from the country to a comparatively unhealthy town may do good. It is probable that in this case the benefit is derived rather from the absence of excessive mental or bodily labour, and in the presence of pleasant associations and companions, than from the mere change of air. Although we have strongly advocated the employment of rest in the treatment of muscular pains, we do not mean to imply that no exercise at all should be taken. On the contrary, we believe that moderate exercise in the open air will, in the majority of cases, be productive of much benefit by improving the appetite and promoting the circulation. When walking is too much for the strength, gentle carriage exercise might prove of benefit. Respecting the diet, all we need say is that the patient should live generously, and that stimulants may be used in moderation. When recovery is retarded by anæmia, indigestion, or constipation, the appropriate remedies should be applied, and these evils remedied with as little delay as possible. In weakly people purgatives are to be employed with considerable caution. People suffering from muscular pains are not unfrequently supposed to have congestion of the liver, and are consequently purged unmercifully, the only result being that the general tone of the whole system is lowered, and the pains are consequently increased. There is a case recorded of a man who, under the impression that his muscular pains were the premonitory symptoms of apoplexy, took purgatives to such an extent that he stated he had gone to the closet six times before breakfast, and twenty times during the day, and that the average of his visits was about fifteen times a day for at least three months. His method of treatment had materially increased the severity of the pains, and had reduced him to such a state of weakness that he had often had to rest on the bed while dressing, and had been unable to get up-stairs without assistance after his day's work was over. He rapidly recovered his normal condition of health on discontinuing the use of his purgatives. In the majority of cases of muscular weakness in which the bowels are confined a little brimstone and treacle, or the more elegant confection of sulphur or confection of sulphur and senna (Pr. 59) will effect all that is necessary. For those who do not like purgatives the following device may be adopted. A strip of coarse linen, about a foot broad, and long enough to go three times round the body, is wetted at one end sufficiently to admit of the damped part going round the body, the dry part of the bandage covering that which is wet and excluding the air; an attendant stands still, holding the dry end, whilst the patient applies the wet cloth and rolls himself up tightly and ties the strings to keep all snug. The bandage must be put on under the ribs so that the play of the lungs be not affected. It is worn night and day, and only removed to be re-damped, in the morning on getting up, at midday, in the evening, and perhaps again at night. This is an excellent plan, and nearly always keeps the bowels perfectly regular.

What should be our immediate treatment when a person is suffering from acute muscular pain? The patient should go to bed, and the affected part should be kept at rest by the application of a plaster or good strong bandage. An injection of morphia given under the skin, or either twenty drops of laudanum, or twenty grains of chloral in a little water, will usually produce sleep, and ease the pain. A mixture

of oil and laudanum well rubbed into the part often proves more successful than any other mode of treatment. The frequent application of hot poultices may do good, but they are, as a rule, inferior to the methods we have already mentioned. In chronic cases, freezing the part by means of the ether spray may be tried; sometimes the pain is removed by a single application. The use of iodine ointment is indicated in obstinate cases where there is tenderness of the muscles, but the skin can be pinched without causing any unusual pain. It should be remembered that this is a mild application, and that it should therefore be rubbed into the part two or three times a day. Chloride of ammonium, in twenty-grain doses, dissolved in water and mixed with an equal quantity of milk, often does good.

The stiffness and aching of the muscles which commonly follow an unusually long walk may in the majority of cases be prevented by at once wrapping oneself in a dripping wet sheet, and then getting a thoroughly good rub down. When the stiffness has already set in it may be removed by taking a drop of tincture of arnica every ten minutes for the first hour, and subsequently hourly, in a little water.

Sufferers from myalgia often derive great benefit from a temporary residence in a hydropathic establishment. This mode of treatment is especially to be recommended in the case of the man of pleasure accustomed to lead an irregular, luxurious, or indolent life. The system is full of enjoyment, and the simple diet of the water-cure patient is relished with a gusto unknown to the pampered slave of calipash and calipee—to those comfortable *gourmets* who begin dinner with soup, fish, and *paté*, washed down with two or three glasses of sherry. The post-prandial lightness of spirits more than compensates for any amount of abstinence.

In pleurodynia the importance of rest of the affected part is as great as in any other form of muscular pain. There are, however, certain accessory modes of treatment, which, in addition to those which we have mentioned when speaking of muscular pain generally, may be employed with advantage. Thus, in obstinate cases, a mixture of chloral and camphor may be used as a local application. When equal parts of these two substances are pounded up in a mortar they form a syrupy liquid which, when painted on the painful part, or gently rubbed in, often affords speedy relief. A blister applied over the seat of the pain often does good, although from its weakening effect on the patient it may increase the pain for a day or two. It is just possible that the blister makes the part so painful that the patient carefully abstains from using his muscles, and thus, by giving them a rest, derives benefit. Belladonna liniment often affords marked relief in pleurodynia. It should be rubbed over the tender and painful part several times a day, according to the severity of the pain. Sometimes a belladonna plaster, from the support which it affords, succeeds where the liniment has failed. When pleurodynia is associated with some derangement of the womb, *actæa racemosa* is the appropriate remedy. It is especially indicated in pain under the left breast occurring in women. Small doses taken frequently of a tincture prepared from the common buttercup (*Ranunculus bulbosus*) have been known to succeed in cases of pleurodynia where other remedies have been tried in vain.

PALPITATION.

As a rule, we are not sensible of the beating of our hearts, but when the pulsations become inordinately forcible they make themselves felt, and the sensation is in many cases a most troublesome and distressing one. Palpitation implies increased force, or increased frequency, or an increase both in force and in frequency, of the contractions of the heart. The pulsations are sometimes tumultuous also, and irregular as well as unduly forcible and frequent, but this is not necessarily the case. The irregularity in the heart's action may be experienced not only by the patient himself, but may be obvious to others. Sometimes a few rapid and feeble pulsations occur at uncertain intervals, and are followed by others that are fuller and slower. Sometimes one or more beats are left out, the next beat, as if to make up for the pause, being unusually strong. The intermissions may be unperceived by the patient himself; but often they are attended with a singularly disagreeable fluttering or trembling sensation in the breast. There may be a variety of attendant symptoms occurring singly or in groups, the most prominent being a sensation of choking, a feeling as if the heart were jumping into the throat, and the eyes bursting from the sockets, pain over the region of the heart, faintness with actual loss of sensibility or partial unconsciousness. The pain rarely amounts to more than a sense of dull aching soreness, but in exceptional cases sharp twinges occurring in paroxysms may be experienced. Shortness of breath rarely occurs to any notable extent, but it does sometimes, giving the patient the appearance of a person out of breath with running, singing in the ears, giddiness, and confused vision, headache, a hot head and flushed face, with clammy coldness of the hands and feet, may be added to the list of disturbances. In rare cases the eyeballs seem to enlarge and protrude to an unnatural extent from the orbits, and this may be accompanied by enlargement of the throat. In some instances palpitation is more or less permanent, but in the majority of the cases it comes on in paroxysms lasting for an hour or two, or perhaps only for a few minutes, and then passing off again. In young persons of a delicate constitution it often occurs, in a slight degree, nightly; so that the patient on going to bed passes many hours sleeplessly, not only feeling his heart beat, but hearing it. His subsequent sleep is unrefreshing, and he awakes in the morning more tired and jaded than when he went to bed. A fit of palpitation often terminates in sleep, and in the case of hysterical women, a copious discharge of watery urine may occur at the time of release. The time during which a patient remains subject to these attacks varies infinitely, as does the duration of the intervals of freedom. In some cases, as, for instance, in young women suffering from "whites," the palpitation is constant, the pulse beating for many days at 150 or 180 strokes in the minute. In very severe cases the pulse has a mere vibratory motion, and cannot be counted, whilst its rhythm is extremely irregular.

The subjects of palpitation are usually of the nervous type, persons in whom the nervous element predominates, and who are what is called emotional or susceptible. Thus the nervous constitution of the female sex renders women more liable to it than men. Further, temporary causes affecting the emotional nature increase this susceptibility, as, for example, sudden surprise, excitement, anxiety, or mental shock.

Certain periods, as the commencement of the menstrual flow, and a short time before it, render females periodically liable to it. It often comes on after excessive indulgence in tea or tobacco. It is common in the subjects of Bright's disease, and in those debilitated by any chronic illness. Youth, too, is more subject to palpitation than adult life. It rarely occurs in those under fourteen, except as the result of some sudden start or shock; but it is frequently met with in middle-aged adults, in women chiefly, but also in nervous men. The more the nervous system in men approaches the feminine type, the more likely are they to suffer from palpitation. There is, however, a great diversity in this respect—some women seem as little likely to suffer from palpitation as the majority of men do to become pregnant.

Palpitation of the heart often depends on a disordered condition of the stomach; in fact, it is more frequently due to that cause than to any other. Palpitation may occur as a symptom of stomach derangement even when indigestion causes no other inconvenience. We have already related a case in which persistent palpitation resulted from excessive indulgence in tea (*see DISEASES OF THE HEART*). The active principle of tea—theine—is a powerful neurotic agent, and when indulged in to excess has a very decided action upon the heart, rendering it irritable, excited, and irregular in its action. In such cases the withdrawal of the tea is absolutely essential to successful treatment. Regarded chemically, the composition of coffee or cocoa is closely allied to that of tea, and it is not easy to believe that the symptoms produced by excessive indulgence in tea are relieved by substituting for it those of allied vegetable products, but so it is. It is said that tea contains, in addition to its principle, theine, a volatile intoxicating oil, and it may be the presence of this agent which makes the difference. We conclude that palpitation is due merely to stomach disorder when it occurs occasionally only, when the action of the heart is perfectly regular in the intervals, and when there are no other symptoms of heart disease.

In the following table the more prominent characters of the palpitation depending on organic disease of the heart are contrasted with those of palpitation arising from other causes:—

Palpitation depending on Disease of the Heart.

1. More common in men than in women.
2. Usually comes on slowly and gradually.
3. Constant, though more marked at one time than another.
4. Often not much complained of by the patient, occasionally attended by severe pain extending to the shoulders.
5. Beat against the chest usually stronger than natural; sometimes remarkably increased, heaving and prolonged; at others irregular and unequal.
6. Lips and cheeks often blue; countenance congested; dropsy of the lower extremities common.
7. Palpitation increased by stimulants and tonics, but relieved by rest.

Palpitation arising from other causes.

1. More common in women than in men.
2. Usually sets in suddenly.
3. Not constant, having perfect intermissions.
4. Usually much complained of by the patient; readily induced by mental emotion; and frequently accompanied by pain in the left side.
5. Beat neither heaving nor prolonged; often abrupt, or knocking, and accompanied by fluttering sensation at the pit of the stomach.
6. Lips and cheeks never livid; countenance often pale; dropsy absent, except in extreme cases.
7. Palpitation increased by sedentary occupations, relieved by moderate exercise, and by stimulants and tonics.

As a rule, patients with heart disease complain but little of palpitation, whilst those with digestive derangements often regard it as the essence of their malady. That palpitation is in the majority of cases merely functional is evident from the number of young persons who suffer from it, and who afterwards attain a hale old age. In young people especially, every passion and every affection acts on the heart and changes its healthy beat, and over-exertion, or any little error in diet, may produce the same result. In some instances palpitation arises from prolonged mental application and over-work, as in the case of literary men, barristers, and others whose pursuits are psychical rather than physical. Occasionally palpitation is met with as a symptom of retrocedent gout—the pain in the joints suddenly subsides, and then the sufferer complains of his heart.

And now as to the future of these cases. Do people get cured of palpitation, or do they die of it? Nine times out of ten they recover completely. It is very essential to bear in mind that palpitation is not only not invariably associated with grave disease, but that it is often a mere nervous abnormality of little or no importance. This is also true of intermittency of the heart's action. A recent writer says: "On mere intermittency of the heart alone, no practitioner is justified in giving an opinion as to the existence of heart disease. The suffering and misery entailed by hasty medical opinions as to the existence of heart disease of a grave character, and its proneness to sudden death, is something fearful to contemplate. I know well a hale north-country yeoman of unusually fine physique, whose peace of mind, years ago, was ruined by a rash medical opinion, formed most unjustifiably, and so strong was the impression then made, that no amount of assurance of his health can free him from the terrible bondage of this idea." Palpitation of violent character, such as obtrudes itself forcibly on the patient's attention, is more decidedly the characteristic of some nervous affection than of organic disease of the heart. In heart disease, palpitation is often to be regarded almost as a good sign, affording evidence as it does that the heart has still strength to palpitate. Before doing anything in the way of treatment it is very important to make sure of the diagnosis. If after reading our description you have any doubt whether your palpitation is due to heart disease or not, you had better go to a doctor and get him to decide for you. It is of no use trying to treat yourself if you are not sure what you are suffering from. If you at any time in your life have had rheumatic fever, and suffer from palpitation, we should advise you to get your chest examined.

The treatment of nervous palpitation is not a very difficult matter. When an attack comes on the patient should be made to lie flat on his back, the neck and chest being bared, and a liberal allowance of fresh air insisted on. A little sal volatile may be given in a wine-glassful of water, or a bottle of eau de Cologne may be held to the nose to smell. It is important to avoid all appearance of alarm, and to avoid exuberant sympathy. When the palpitation has been induced by a sudden effort, rest, quiet, and the administration of a little stimulant, with the addition of fifteen drops of either tincture of belladonna or digitalis, will be found useful. Cold brandy-and-water can always be obtained in an emergency, and is an excellent remedy for occasional use. When the attack is over, treatment must be directed to



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the improvement of the general health. When the palpitation is due to a finely strung and over-susceptible nervous temperament, we cannot hope that medicine will prove of much avail, but quiet, mental and bodily, and avoidance of all exciting pursuits, are indicated, whilst any temporary derangement of the bowels and stomach should be seen to without delay. When the occupations are chiefly sedentary, outdoor exercise, with plenty of fresh air, should be tried. Cold or tepid baths are of essential service. As has been very truly said, "the excitement of modern fiction is not without an effect on the emotional nature of its votaries, who become as abandoned to this form of intemperance as others are to the use or abuse of other stimulants." The enthralling plot which the victim to novel-reading demands is allied to the cry for brandy of the toper; slighter stimulants are inefficient and powerless. The desirability of removal from the circulating library is obvious, and exercise, other interests and occupations, and rational mental pabulum are necessary. When there is more than ordinary disturbance of the nervous system, the administration of bromide of potassium (Pr. 31) may prove useful. Disturbed rest is better met by early rising, active exercise, and light suppers, than by opiates or other narcotics, or even by morning slumber. When the liver is sluggish, nothing acts better than a blue-pill and black draught. When there is obvious derangement of digestion, the gentian and soda mixture (Pr. 14) taken half an hour before meals answers admirably. Attention must of course be paid to diet, mutton and beef being taken in preference to pork and veal. In some cases nothing agrees so well as boiled mutton. Pastry is seldom admissible, and the same may be said of cheese, nuts, and many other articles of diet that are ordinarily reputed to be indigestible. For flatulence nothing succeeds better than three drops of oil of cajeput taken on a piece of sugar when the wind is troublesome.

Of the specific remedies for palpitation, digitalis is one of the best. Two table-spoonfuls of the perchloride of iron mixtures (Pr. 1 or 2) may be taken three times a day for a week, with the addition of ten drops of tincture of digitalis to each dose. The infusion of digitalis often proves more effective than the tincture. A drachm may be taken twice a day in the iron mixture, or, better still, alone. Tincture of aconite often proves useful; it should be given in from one to three-drop doses in water three times a day. It will succeed admirably if added to the iron (Pr. 1 or 2) or gentian mixture (Pr. 14). Five-drop doses of tincture of belladonna in water three times a day sometimes succeed admirably. The belladonna plaster applied over the region of the heart is a capital remedy. It should not be smaller than six inches by four. We have ordered it in hundreds of cases with the greatest success. To make a plaster adhere firmly, first wash the part with soap and warm water, then dry it thoroughly with a soft towel. After waiting an hour, warm the plaster before the fire and apply it smoothly. A plaster with creases in it is most uncomfortable, and is worse than useless. If properly put on, a good plaster will last a month or more. It matters not whether the palpitation be due to heart disease or the functional derangement of the stomach, it will do good. It should be kept on till it comes off by itself, or until it gets wrinkled and uncomfortable, when it may be taken off. Its only possible disadvantage is that it sometimes produces a little eruption of pimples, or a rash not unlike that of scarlet fever. In that case the plaster will have to

be taken off. Should the plaster cause this irritation of the skin, it may be punched with holes at regular intervals so as to admit of the escape of the retained perspiration. These porous plasters are often very useful. We can warmly recommend the belladonna plaster in the treatment of palpitation. Its application does not, of course, in any way limit the choice of internal remedies. Mustard poultices applied over the region of the heart often help to regulate its action; they lessen the feeling of distress, and cannot possibly do any harm, even if they do no good. When there is any suspicion of gout, colchicum must be given. Tincture of musk and caffeine are remedies that occasionally prove useful in palpitation.

As accessory measures, abstinence from tea and tobacco is very essential. The effect of tobacco is to render the heart's action quicker, its beat feebler, and to promote a liability to palpitation. There is a distinct functional derangement of the heart which is recognised and known as "smoker's heart." In many instances this condition arises from great indulgence in strong tobacco, and frequently the substitution of a lighter form of tobacco in moderation is sufficient to afford relief without the abandonment of the favourite habit. We recently met with a man whose palpitation had for years resisted treatment, simply because he consumed three or four cigars regularly every day of his life. Many of the London poor—the women especially—live almost exclusively on weak tea and bread-and-butter. It is hardly to be wondered at that they suffer from palpitation, and form so large a contingent of our hospital out-patients. The great thing is to get them to substitute milk or cocoa for tea. Sobriety in the use of alcoholic stimulants is important. It is really wonderful what a quantity of drink many people consume in the course of the day. Only a week or two ago a patient told us that his usual allowance was four or five pots of beer, with a "go or two" of rum or rum-and-milk, in the morning, to "pull himself together." He added that of course that did not include a glass or two if he met a friend, "which didn't count." He expressed considerable surprise on being advised to reduce the quantity, and said that he always considered himself "a very sober man." He added, by way of explanation, that he was a barman, and was "always in it;" and that, as it didn't cost him anything, he didn't see how it could do him any harm. This is by no means an exceptional case; and when a man assures you that he is not taking too much, it is desirable to obtain from him some idea of what he considers to be "too much." The free use of wine and spirits in the intervals of the attacks of palpitation not only renders the patient more subject to them, but deprives him of one of his chief aids during their occurrence. There is no occasion to abstain altogether from the use of alcohol—a pint of beer a day, or three glasses of sherry or port, can do no one any harm. Experience alone will teach the sufferer what kind of alcohol may be taken with least discomfort. People subject to palpitation should not hurry themselves. Take a rest going up-stairs, for example; never get excited, and rather lose a train than hurry to catch it.

PARALYSIS.

By paralysis, or palsy, is meant impairment or loss of power or sensation in some part of the body. Sometimes only one side is affected, and then it is technically

called *hemiplegia*, at others the loss of power is confined to the legs, and then we say it is a case of *paraplegia*. Then, again, the paralysis may be local, only a small portion of the body, as a limb, a foot, or the face, being involved. In many instances the affection is due to brain disease, and immediately follows a shock. Not unfrequently the brain is unaffected, the disease being in the spinal cord, or spinal marrow, as it is called. Sometimes even it is the nerve itself which is at fault.

That variety of paralysis which we have called *hemiplegia* is the most common form of palsy. It usually comes on suddenly, and is spoken of as a paralytic stroke. Almost invariably both arm and leg are paralysed, and the left side suffers more frequently than the right. The loss of power is very striking. The patient may *will* the motion of his leg or his arm, but neither of them any longer obeys the act of volition; if they are lifted by a bystander, and then let go, they drop down like logs of wood. This is a condition very painful to witness, for the powerful man, full of health and strength, is in a moment reduced to the condition of helplessness of a little child. One side is for the time being dead. When only one limb suffers it is usually the arm. Often enough this condition is accompanied by some loss of power over the movements of the face. Sometimes the mental faculties remain intact, but very often the memory becomes weakened, and there is a peculiar tendency to shed tears and to become distressed by slight causes. In paralysis of the right side there often co-exists that peculiar loss of the faculty of language which we have described under the title of *APHASIA*. In *hemiplegia* from disease of the brain, although the sufferer cannot, by his own will, move the palsied limb, yet the irritation of the sole of the foot will often excite active movements, the involuntary action causing no little astonishment to the patient. Supposing recovery to take place, the symptoms of amendment are usually first noticed in the leg. Besides the palsy there is mostly loss of sensation also, but this is by no means so constant a symptom as the paralysis. When the sensibility is lost or blunted it is so, commonly in the same parts that are affected with paralysis. But sometimes there is loss of sensation and no palsy, and, more strange still, there has been sometimes loss of feeling on one side and loss of the power of motion on the other. It must be remembered that these palsied parts do not resist the influence of cold and heat so well as the sound parts. They readily get chilled if exposed to even a very moderate degree of cold. One has always to be careful in applying hot-water bottles or hot bricks to the feet of the paralysed, for the parts may get blistered or scalded without the patient experiencing any pain. In this affection the attendance of a doctor is necessary. As a rule, good feeding, with the administration of tonics, is to be enjoined.

Paraplegia, or paralysis of the lower half of the body, usually arises from some disease of the spinal cord. It most frequently commences slowly and insidiously with weakness and numbness of the feet and legs, or with tingling and a creeping sensation in the parts, unattended with pain. By degrees the weakness increases until there is complete loss of sensibility and motion of the lower extremities, with perhaps some affection of the bladder or bowels. Although the power of moving is completely lost in the lower limbs, the patient is not uncommonly rendered sleepless at night by painful spasmodic twinges and startings in the parts. *Paraplegia* may be the result of some injury to the spinal cord, or it may proceed from the pressure

of a tumour or other causes. Sometimes it follows the immersion of the lower part of the body for some time in cold water. In one case the patient had been in the habit of wading for hours together in a river while fly-fishing. Much good may often be done by medicinal treatment in these cases. The remedy to give is extract of physostigma. It is made into little pills, each containing a thirty-second of a grain, and one of these is taken every three hours during the day-time, and also at night if awake. In three or four cases we have seen considerable benefit derived from the adoption of this mode of treatment. The sooner the physostigma is taken, the greater is the likelihood of its doing good. In old-standing cases the treatment may have to be persisted in for some weeks, or even months. These patients require the greatest care and attention, and it is extremely difficult to keep them clean and dry. The great thing is to avoid bed-sores. The parts on which the pressure is greatest should be examined almost daily to make sure that there are no signs of redness. The skin may be hardened by the occasional application of a little alcohol in the form of brandy or eau de Cologne, rubbed in with the palm of the hand. A mixture of oxide of zinc and starch, in equal parts, forms an excellent dusting powder. One of the best preventives of bed-sores is glycerine or glycerine cream. The parts exposed to pressure should be washed morning and evening with tepid water, dabbed quite dry with a soft towel, and then gently rubbed over with a little of the glycerine or glycerine cream. A draw-sheet, made of linen, and sufficiently large to be firmly tucked in at both sides of the bed, will prevent the bedclothes from getting soiled. When people have of necessity to pass the whole of their time in the horizontal posture, it is a capital plan to have two beds placed side by side, and to move them occasionally from one to the other. The question of getting a water-bed is in many cases well worth considering.

Locomotor ataxy is a disease closely allied to, though not identical with, paraplegia. There is loss of control over the movements of the legs, but there is no actual paralysis. When the patient attempts to walk, instead of the leg dragging after him as it does in true paralysis, it is suddenly jerked out in a most peculiar manner, just as if it were trying to dance a "break-down" by itself. The patient can move the limb, but not in the way he wishes. The power of guiding the muscles aright is quite gone. It is not a common disease, but we recently had a case of this description under our care, and succeeded in doing him some good. He was a tall, thin, wiry-looking man, the foreman in a large warehouse in the city. He had always been accustomed to lead an active life, and could, as he said, "walk, run, or jump with anybody." He lived five miles from his work, and "did the journey, twice a day, in and out, under the hour." After a time he noticed a feeling of uncertainty in his walk, and "a little giving way in his knees;" in fact, to use his own expression, he was "like a horse that had been hamstrung." Soon he felt that he could not run so well, and he gave up his morning and evening walk, taking the omnibus to and from his work. In a little while he felt afraid to jump on the omnibus whilst it was in motion, and took to hailing it so that it might stop for him. As time went on he felt afraid to get on the roof or knifeboard, and went inside. He next noticed that he staggered a little in his walk, and suddenly received notice of dismissal from his employers without any reason being assigned. He was at the

time quite unable to account for this, but on consideration has no doubt he lost his place in consequence of his staggering having been attributed to the effects of drink. For two years he endeavoured to obtain employment, but unsuccessfully, and being in trouble and distress, paid very little attention to the condition of his health or the progress of his complaint. At the expiration of that time his powers of walking were found to be greatly affected. On attempting to take a step, the leg was thrown up in the air, and then brought down violently, the heels first coming in contact with the ground. He could walk for a short distance, but was obliged to take every opportunity of steadying himself by the table and other articles of furniture about the room. His greatest difficulty in locomotion was in crossing the road, and going round corners. Stepping on the curbstone was always a difficult and delicate operation. He would often walk in the road until he came to a lamp-post by which he could assist himself on to the pavement. He was quite unable to stand alone in the dark, and merely turning out the gas would cause him to fall almost as if he were shot. There was no true paralysis, for when the patient was in bed he could move his legs in any direction. He suffered greatly from pains in his limbs, which he described as being "sharp, rheumatic, spasmodic, like toothache." He derived considerable benefit from taking physostigma. He had some pills given him, each containing a thirty-second of a grain of extract of physostigma, and of these he took one, six or eight times a day, for three or four months. At the end of that time he could walk very much better, and could cross the street, and step from the road on to the pavement with comparative ease. At times he could walk almost as well as ever, and there was distinct improvement in other respects. The physostigma did him a great deal of good, in spite of the fact that from domestic and other reasons he was very unfavourably situated for carrying out systematically any plan of treatment.

Facial paralysis is a variety of palsy in which only the muscles of the face are affected. It most commonly arises from cold, as when a person is exposed to a draught in driving or in a railway carriage, but it sometimes arises from rheumatism, and other causes. The appearance presented by a patient affected with facial palsy is peculiar and very striking. He cannot knit the forehead, neither can he raise the eyebrows or draw them together. The eye remains open, as the power of closing the lids is lost, and their blinking movement no longer exists. From one-half of the countenance all power of expression is gone; the features are blank, still, and unmeaning; the eyelids apart and motionless. The other half retains its natural cast, except that in some cases the angle of the mouth on that side seems a little awry. The patient cannot laugh, or weep, or frown, or express any feeling or emotion with one side of his face, while the features of the other may be in full play. Further, the patient cannot whistle, for he is unable to purse up his mouth for that purpose, and for the same reason he can neither spit nor distend his cheeks with air, or blow wind from the mouth. In mastication portions of food are apt to collect between the cheeks and gums, as the support of the lips and cheek necessary for its proper performance is lost. The saliva and fluids frequently trickle from the mouth. At the same time it must be remembered that this particular form of palsy is much less serious than the other forms we have

been considering, for if unaccompanied by palsy of the limbs there is really no cause for anxiety. It is often supposed that the patient has had a stroke, and is in imminent danger; but such is not the case. Sometimes the loss of power over the movements of the face is accompanied by loss of sensation in the corresponding part. Usually, sight is unimpaired and the tongue is unaffected, but the articulation of some words formed by the lips may be difficult. Facial palsy may have a duration of from ten days to as many weeks; perhaps three or four weeks may be regarded as the ordinary duration. Cases arising from cold or rheumatism nearly always do well. Now as to the treatment. Hot fomentations are useful at an early period of the complaint. Later warm douches, shampooing, and galvanism may be resorted to. When there is any suspicion of a syphilitic taint, iodide of potassium may be used with advantage (Pr. 32). Should a rheumatic or gouty habit be found in connection with the palsy, colchicum (Pr. 33) or perhaps lemon-juice might exert a beneficial influence. Iron (Prs. 1—7) is likely to be useful when an anæmic condition of the system exists. For *Hysterical Paralysis*, see HYSTERIA.

PERITONITIS.

By Peritonitis is meant inflammation of the membrane lining the abdomen. It may occur in either sex and at all periods of life. It may come on from cold or even without any apparent cause, and it may frequently occur in women who have been recently confined, constituting a very serious complication. The prominent symptoms are high fever and intense pain in the stomach, aggravated by the slightest movement, or even by coughing or sighing or taking a deep breath.

These are not cases in which home treatment will avail you much. You had better send for the doctor. In the meantime let the patient get to bed, give him the Aconite Mixture (Pr. 38), apply linseed-meal poultices or hot fomentations to the abdomen, and let him have ice to suck.

PILES, OR HÆMORRHOIDS.

The terminal portion of the bowel—the rectum—is subject to derangements as numerous and varied as any organ of the body, although for obvious reasons we ordinarily hear very little about them. These complaints not only cause intense suffering, but give rise to an amount of depression and anxiety quite out of proportion to their gravity. They usually spring from habits prejudicial to health, being either engendered by sedentary pursuits or the result of over-indulgence in the luxuries of civilised life.

Piles, or hæmorrhoids, occur both in men and women, and are usually not met with until middle age. Amongst circumstances favouring their formation may be mentioned pregnancy, habitual constipation, the frequent use of powerful purgatives, straining at stool, rich living, insufficient exercise, hereditary tendency, and a long residence in tropical climates. They are much more prevalent in the upper classes of society than amongst the labouring population. The latter live plainly, take plenty of exercise in the open air, and seldom suffer from constipation.

We shall discuss this complaint chiefly from a medical point of view. Of

surgical operations, the use of the knife, the ligature, and acid, we have nothing to say. They are in many cases of inestimable value, but it is undesirable to submit to any operative procedure until it has been clearly demonstrated that medicinal treatment has failed.

There are many valuable remedies for piles, some of which ought, in every instance, to afford relief. For bleeding piles nothing equals the tincture of *hamamelis virginica*. It is almost a specific, and many doctors who have used it extensively say they have never known it fail. It is to be used in those cases, and in those cases only, in which the piles bleed. Its use is especially indicated when there are, in addition to bleeding piles, enlarged or varicose veins of the legs. A tea-spoonful of the tincture of *hamamelis* is to be put in an eight-ounce bottle of water, and of this three tea-spoonfuls are to be taken every three hours. It is not to be given with any flavouring agent, or with any other medicine. In addition to taking the *hamamelis* it is necessary to apply it locally. A *hamamelis* lotion is made by adding two tea-spoonfuls of the tincture to half a pint of water, and when the piles are external this is to be applied to the part by means of two or three folds of linen covered with oiled silk, and renewed several times daily. When the piles are internal some of the lotion is to be injected with a syringe or injection apparatus into the back passage two or three times a day. We can almost guarantee that in the cases we have indicated *hamamelis* will effect a cure. The best and cheapest way is to buy a couple of ounces of tincture of *hamamelis virginica* from the chemist, and make your own lotion. Mind you get the strong tincture, and not any weaker preparation or dilution. All you have to do is to put two tea-spoonfuls into half a pint of water, shake it up, and it is ready for use. Many chemists keep an ointment or cerate of *hamamelis*, which for external piles is more convenient to use than the lotion. It should be applied to the parts after the morning bath, and again after each motion. If you have bleeding piles you may get rid of them almost to a certainty by using *hamamelis* as we have directed. We recently cured with this drug a gentleman who had suffered from hæmorrhoids for over thirty years. He had been an officer in the army, and his complaint was attributable to excessive riding. He was for ten years in India and China, and since his return had lost blood almost daily. He had been operated on twice without any permanent benefit, and had quite given up all hope of obtaining relief. He used the *hamamelis* lotion every morning after his bath, and also after every motion, and in less than a week the bleeding had ceased.

Hydrastis canadensis is another remedy which enjoys a high reputation in the treatment of piles. Internal piles, which cause great prostration of strength, and are accompanied by various dyspeptic symptoms, giving rise to considerable pain during defecation, and frequent attacks of bleeding with a little discharge of mucus or matter, are cured, or at all events materially relieved, by the use of *hydrastis*. A lotion is made by adding a tea-spoonful of the tincture of *hydrastis* to half a pint of water, and some of this is injected into the back passage night and morning. In addition five drops of tincture of *hydrastis* are to be taken in a wine-glassful of water three times a day. In the case of external piles *hydrastis* is often of great value, the lotion being used three or four times a day, just in the same way

as the hamamelis lotion ; or the drug may be applied in the form of a cerate or ointment.

A tincture made from horse-chestnut (*Æsculus hippocastanum*) is used for some kinds of piles. When the piles are due to congestion of the liver it will usually be found to be inferior to nux vomica or sulphur, of which we shall speak presently. When the piles are associated with enlarged veins in the legs, and bleed much, hamamelis is a better remedy. But when the only associated symptom or appreciable cause is a confined condition of the bowels, æsculus is the drug to be employed. The dose is three drops of the tincture in a little water every three hours, and a lotion or injection may be made by adding two tea-spoonfuls to half a pint of water.

Nux vomica is useful for piles which do not bleed, especially when the patient also suffers from dyspepsia, congestion of the liver, and confined bowels. From five to ten drops of the tincture of nux vomica may be taken in a tumblerful of cold water twice a day, half an hour before breakfast and dinner. It usually acts as a laxative, and will often overcome the most obstinate constipation.

In ordinary simple cases of piles it is a good plan to keep the bowels moderately relaxed by occasionally taking a tea-spoonful of some electuary, such as confection of sulphur or confection of senna. We have already given a formula for a confection containing both sulphur and senna (Pr. 59), and this usually answers admirably. The old-fashioned sulphur and treacle is as good as anything. These laxatives should not be employed when any of the specific remedies for piles, such as hamamelis, hydrastis, or horse-chestnut, are being administered. As a local application the ointment of galls and opium is extremely useful, and often affords great comfort to the sufferer.

When piles become inflamed, the best remedy is tincture of aconite, a drop in a tea-spoonful of water every ten minutes for the first hour, and subsequently hourly until the pain subsides. For the excessive pain often associated with piles an aconite lotion may be employed in addition to its internal administration. The lotion is made by adding two tea-spoonfuls of the tincture of aconite to half a pint of water.

Sufferers from piles would do well to use what is called medicated paper or curl paper. It can be procured in packets at any chemist's. When the piles are very painful it may be necessary to use a piece of sponge dipped in cold water. It is said, but with what truth we know not, that the printer's ink in newspapers is injurious, and by the irritation it causes favours the development of piles.

Many people who think they have piles are in reality suffering from fissure. A fissure is a small chap, crack, or ulcer situated just within the anus, or orifice of the bowel. It occurs most commonly in women, and especially in those of a weakly constitution. The sufferer complains of pain, usually of a severe burning character, on the passage of a motion, especially if a hard one ; occasionally it occurs at the time of defecation, but more frequently it commences a few minutes afterwards, and it may continue for two, four, or even eight hours. This pain is very severe, and peculiarly wearing and burning. It may extend all round the hips and even down the thighs. Sometimes it gives rise to irritability of the bladder, or even to symptoms similar to those resulting from derangement of the womb. Often enough there

is a good deal of constitutional irritation, the nervous system generally being deranged in, as we say, sympathy with the local irritation. The pain produced by an evacuation is sometimes so severe that the patient avoids defecation as long as possible, and even abstains from food with the view of lessening the necessity for the frequency of the act. If you have reason to suppose that you are suffering from fissure and not piles, we advise you to consult your doctor at once. We give this advice, not because the complaint is a dangerous one, but because it is so situated that it would be well-nigh impossible for you to make an application at all satisfactorily without some assistance. It is of little or no use applying to a non-medical friend to help you, for the fissure is so small that it would probably escape the notice of one untrained in the investigation of such matters. On consulting your doctor you will, of course, say at once that you have reason to suspect that you have fissure of the anus. There is often a great deal of mock modesty about these matters, and the doctor often obtains the required information only after a considerable amount of beating about the bush. You will find that it will simplify matters if you say at once what it is you think you are suffering from.

Fistula of the anus is another complaint we have known mistaken for piles. It usually forms as the result of an abscess, running up by the side of the gut. Sometimes it follows kicks, blows, or bruises on the lower part of the body. Here, again, little or nothing can be done without the assistance of a medical man. The mere fact of its position renders it almost impossible to treat it without extraneous help.

Before leaving the subject of piles, we will say a word or two about diet and other accessory measures. When the complaint occurs in debilitated persons, benefit will be derived from a tonic and nutritious plan of treatment. In the great majority of instances, however, more particularly when occurring about the middle period of life, piles are connected with a plethoric state of the system, and then we recommend abstinence from coffee, peppers, spices, and all stimulating and highly-seasoned food. In these cases, too, beer, wine, and spirits must be taken in the very strictest moderation. The best drink—at all events for the summer months—is a light claret. A liberal supply of well-cooked vegetables, and plenty of ripe, wholesome fruit, is enjoined. Sedentary habits, and the habitual use of soft cushions and feather beds, undoubtedly favour the formation of piles, and do much to retard the progress of a cure. The pain attending piles which do not bleed may often be relieved by washing the parts with cold or tepid water. In an attack of bleeding piles, it is a good plan, in addition to bathing the part, to drink a tumblerful of cold water, and then to lie down for an hour or two. The horizontal posture is conducive to recovery. In many cases of piles, great relief follows an occasional injection of about a pint of water into the lower bowel. It acts beneficially by constricting the blood-vessels, and it also gives tone to the relaxed tissues, and softens the motions before evacuation. When piles are very painful, the unfortunate sufferer may obtain relief by sitting over the steam of hot water. When the attack is a very severe one, he may have to keep his bed, or recline for the greater part of the day on a couch. People troubled with piles often find it a good plan to acquire the habit of going to stool at night, immediately before retiring to rest, instead of in the morning, so as to obtain the benefit of a long rest in the horizontal position after each motion.

PLEURISY.

Pleurisy is a complaint essentially unsuited for domestic treatment, and the object of this article is not to teach people how to cure themselves, but to place before them certain facts that will enable them to recognise the disease when present, and to indicate the necessity for obtaining medical assistance.

By pleurisy we mean inflammation of the pleura, or membrane covering the lung.

The most frequent causes of pleurisy are exposure to cold and wet, sitting or sleeping in wet clothes, &c. Two cases that recently came under our notice will afford examples of its mode of production. The first is that of a young man, who went to a crowded theatre on Boxing night, and what with the heat and crowd and excitement, got drenched with perspiration. At the conclusion of the performance he stopped talking to some friends at the corner of the street, until he was thoroughly cold, and, to use his own expression, "all of a shiver." He went into a public-house and had some hot brandy-and-water, but was unable to shake off the feeling of chilliness, and the next day he was laid up with a sharp attack of pleurisy. The other patient was a clown and gymnast in a travelling circus. One night when in the country his "tights" were not sent home from the wash until the last moment, and he found they were quite damp. It was almost time for him to appear, and he had no chance of airing them before putting them on. He went through his performance, but felt cold and chilly from his wet garments, and the result was that he, too, got pleurisy, which finally left him so weak and short of breath that he was hardly able to walk across the room, much less to amuse the public. Sometimes inflammation of the pleura occurs as the direct result of a blow or fall on the chest, and sometimes it is excited by the irritation caused by the splintered ends of a broken rib. There is reason to think that extreme muscular over-exertion, or prolonged public speaking, may produce pleurisy, even in previously healthy persons, but these cases must be rare. Not unfrequently pleurisy occurs as the result of some constitutional affection, as, for example, scarlatina, typhoid fever, or Bright's disease. When it occurs "primarily," that is, as the sole complaint, it usually attacks one side only, but when it is secondary to some other disease, it is commonly bilateral, both sides of the chest being involved.

The outset of pleurisy is in most cases marked by sharp, stabbing pains, commonly in the side or beneath one of the breasts, preceded or accompanied by shivering or a feeling of chilliness. These two signs, the stitch in the side and the shivering, are in themselves sufficient to make us suspect pleurisy; and should there be, in addition, distinct elevation of the temperature as tested by the thermometer, our suspicion will be considerably heightened. The pain is usually aggravated by taking a deep breath, by coughing, by lying on the affected side, and by pressure. The skin is hot and dry, the cheeks are flushed, the pulse is full and quick, there is anxiety with considerable restlessness, and the urine is rather scanty and high-coloured. The breathing, at the outset especially, and while there is still pain, is considerably embarrassed, the movements of inspiration in particular being short, hurried, and often interrupted or jerking. The temperature of the body gradually

risers to perhaps 103° F., but this elevation is not persistent, and it quickly falls again. Disturbances of the digestive organs, headache, and other symptoms associated with the condition of fever are present more or less. Cough is another of the ordinary symptoms, but it does not occur in paroxysms; it is small, half-suppressed, ineffectual, and is dry, or accompanied by very little expectoration. If much frothy mucus should be expectorated, it is a sign that there is also bronchitis; or if rust-coloured sputa be brought up, it is an indication that the complaint is complicated with inflammation of the lungs.

The symptoms we have enumerated may be regarded as those of a pretty sharp attack occurring in an adult. Sometimes, however, pleurisy may come on with scarcely a single noticeable symptom to arrest attention, at all events in the early stage of the malady. The pain may be vague or fugitive at first, and not become fixed and permanent for a day or two. In that case it may be mistaken for simple rheumatic pain, for muscular soreness, for pleurodynia, or for what is thought to be merely a nervous pain. In children especially, the febrile symptoms are often inconsiderable, and the cough is not likely to attract much attention in slight cases.

We have said that by the pleura we mean the investing membrane or covering of the lung, but we ought perhaps to have explained that it is in reality a double bag, consisting of two parts, one of which covers the lung, and the other lines the cavity of the chest on the same side. Ordinarily there is no true cavity between these two layers, one bag being in contact with the other, and gently gliding over it with every movement of the chest and lung. Now, in pleurisy the adjacent surfaces of the pleura get roughened as the result of the inflammation, giving rise to "friction," a rubbing or grating noise, which may be heard by the physician when he listens to the chest with the stethoscope. The inflammation may subside, leaving the pleura uninjured, or the two layers may become more or less adherent, the patient being left with permanent shortness of breath, little or much as the case may be. Not unfrequently the inflammation results in what may be called dropsy of the chest, a clear fluid being poured out between the two bags, so as to surround the lung on the affected side. When the fluid is considerable in quantity—and sometimes it amounts to several pints—it compresses the lung, so that it cannot expand properly during respiration. The physician detects the presence of fluid in the chest by means that are simple enough to him, although they may appear somewhat complicated to those who have not had experience in such modes of investigation. In the first place he looks carefully at the chest, to see if one side is larger than the other, for it is obvious that if much fluid be present it will cause the chest on that side to bulge out. Should the bulging be not very distinct, he may measure the two sides with a tape, with the view of detecting the enlargement; but the practical physician, as a rule, trusts rather to his eye and hand than to actual measurement. It should be remembered that in many healthy people the right side of the chest is somewhat larger than the left, from the greater development of the muscles. Then the next thing the doctor does is to place the palm of his hand on the chest, first on one side, and then on the other, making the patient speak at the same time. On the sound side he feels a vibrating movement, just as you do when you place your hand on your own healthy chest, and say, for example, "ninety-nine" in a fairly

loud voice. On the side on which there is effusion nothing of the kind is felt, for the fluid fails to conduct the vibration to the chest-wall. Then the doctor percusses the chest; in other words, taps it with the tips of his fingers, interposing perhaps one or two fingers of the other hand, to prevent the patient from being hurt. On the healthy side the blow gives out a clear sound, just as you get when you tap with your finger on the upper part of your bared chest. When there is fluid present, the note given out is a dull one, similar to that you obtain when you strike your thigh in the same way. Often enough the fluid is only sufficient to half or a quarter fill the chest on one side, and then the dullness on percussion will obviously be only at the lower part of the lung. Finally, the doctor listens to the chest with his stethoscope, and hears the air entering the lung on the healthy side, but little or nothing where the fluid is. We have described these different modes of examining the chest, not that you may practise them yourself, but rather to impress upon you the necessity for having the chest thoroughly examined in any case in which there is the slightest suspicion of lung disease. Many people put absurd difficulties in the way of the doctor, and he is sometimes—wrongly, we are sure—afraid to push his point, for fear of offending his patient. Remember that in any case of suspected lung mischief it is impossible for the doctor to do you justice unless he has an opportunity of thoroughly examining your chest; and remember, too, that often enough he will require to make several examinations before giving a positive opinion. Many people seem to think that a physician can find out what is the matter with them by listening through their clothes, but it cannot be done. You might as well ask him to listen through a brick wall.

The amount of effusion may to some extent be estimated by the shortness of breath, but the best test is the extent of dullness on percussion. In some cases the whole of one side of the chest becomes filled with matter, and this is most likely to arise in weakly constitutions, or when the inflammation has resulted from injury.

The disease with which pleurisy is most likely to be confounded is inflammation of the lungs. In both affections there are fever, cough, and shortness of breath. In pleurisy, however, the temperature is rarely very high at first, whilst in inflammation of the lungs it may reach 103° or 104° within the first twenty-four hours. The feeling of shortness of breath is usually much more distinct in pleurisy than in inflammation of the lungs. The cough in pleurisy is short and hacking, but attended with no expectoration, or with only the discharge of a little mucus; whereas, when the lungs are inflamed, the expectoration which is present in almost all cases soon becomes rusty in colour, and very thick and tenacious. Sharp, stitch-like pain in the side is a very frequent characteristic of pleurisy; whereas, in inflammation of the lungs there is commonly no pain, or it is of a duller and more diffused character. It must not be forgotten that the two affections—pleurisy and inflammation of the lungs—may coexist. Should a difficulty be experienced in making the diagnosis, it is not a matter of any very great moment, for in either case the attendance of a doctor is absolutely necessary.

There is no difficulty in distinguishing between pleurisy and a purely muscular pain. In the former case there is distinct elevation of temperature, in the latter there is none. A simple thermometrical observation will settle the question.

Cases of simple pleurisy without effusion usually terminate favourably, and the danger to life is small. When effusion has occurred, and there is fluid in the chest, the prognosis is far less favourable, and the danger may to some extent be estimated by the occurrence of attacks of shortness of breath. Secondary pleurisy is always more dangerous than primary.

Now as to the treatment of pleurisy. Practically it may be summed up in these words: "Put the patient to bed and send for the doctor." But as medical assistance is not always forthcoming at a moment's notice, there are other measures that may be adopted pending its arrival. A light diet of gruel, arrowroot, beef-tea, and broth, with occasional sips of cold water to allay thirst, will be found beneficial. When there is effusion some doctors consider that little or no fluid should be given, and cases have recently been published which seem to bear out this view. It is important to avoid draughts, but if in bed the patient may be allowed to assume any position that is to him most comfortable. Linseed-meal poultices, or flannels wrung out of hot water and applied to the chest, often give relief. A flannel bandage attached round the chest will moderate the pain by restraining the movement of the ribs. Strapping the chest on the affected side, as one would do for broken ribs, often affords immediate relief, and the most favourable results have in many cases followed this procedure. Ordinary sticking-plaster may be used, and if spread on some thick material so much the better. It should be cut into strips from three to four inches wide, and sufficiently long to extend from the spine behind to the middle line in front. These strips should be warmed before being applied, either by holding them in front of a fire for a few seconds, or what is better, by drawing their backs over a large jug of hot water. Some people dip them bodily into hot water, but this is not a good plan, for the patient is very apt to catch cold after it. The strips should not be applied horizontally, but somewhat obliquely, the alternate layers running in opposite directions. It is best to make the application from below upwards, and the patient should be directed to expire deeply as each strip is being put on. Each layer should overlap the preceding by about a third of its breadth. Finally, it is often desirable to apply over the whole two or three strips horizontally, so as to form a superficial layer, and one or two may also be passed from behind forwards over the shoulder, these being kept down by another fixed round the side across their ends. It is of course necessary to make this application only on the affected side. When this plan is not adopted the chest may be well painted with iodine liniment. When the pain is agonising, and resists other and simpler treatment, it is quite justifiable to give a hypodermic injection of morphia—say two drops of the pharmacopœial solution.

There are two drugs which may be advantageously administered internally, and these are aconite and bryony. Aconite is most useful in quite the early stage of the complaint. A drop of the tincture should be given in a tea-spoonful of water every ten minutes for the first hour, and subsequently hourly, or Pr. 38 may be used. After two or three doses the skin becomes moist, contrasting favourably with the hot dry skin, urgent thirst, quick pulse, and general suspension of the secretory functions which previously existed. Bryony is especially indicated when there are stinging, shooting, or burning pains in the side, aggravated by breathing or movement; painful dry cough,

or cough with expectoration of glairy sputa ; laboured, short, and rapid respirations ; weariness, disposition to retain the recumbent posture, irritability, and restlessness. A dose of Pr. 49 may be given every two hours, either alone or alternately with aconite. A recent writer says :—"In pleurisy, bryony is an exceedingly valuable drug ; it is usually in the second stage, in which general pyrexia (fever) has diminished or disappeared, but exudation continues, that the best effects of the remedy are seen. It is just in those cases in which aconite is so effectively employed in the earlier feverish stage that bryony afterwards proves most useful ; it limits the extent of serous effusion, and actively helps its removal by absorption."

Iodide of potassium is a drug frequently given in the treatment of pleuritic effusion, with the view of aiding the absorption of fluid, but it is very doubtful whether it has any such effect. By many it is considered that the tincture of perchloride of iron, given in fifteen-drop doses in a tea-spoonful of water three times a day, is a more efficacious remedy. It forms an admirable tonic and restorative in the anæmia which often follows an attack of pleurisy.

In many cases of pleurisy with effusion it becomes necessary to resort to the operation of tapping the chest. This plan of treatment has inaugurated a new era in the management of these cases, and many lives are now saved which formerly would have been inevitably sacrificed. When carefully performed by means of an instrument called the aspirator, it is not only devoid of danger, but is practically painless.

PYROSIS, OR WATERBRASH.

We have already had occasion to refer to this complaint as a symptom of dyspepsia. It is characterised by a burning sensation at the pit of the stomach, followed by the vomiting or rather the eructation of a thin watery fluid resembling saliva, sometimes sourish, but usually insipid and tasteless, and often described by the sufferers as being cold. It is stated that it sometimes occurs without any other evidence of dyspepsia, but such is not often the case. It is, however, often a symptom of some of the more serious diseases of the stomach. It is a disorder far more common in the lower ranks of society than in the upper, and among women than men. It is of common occurrence in Scotland, and is there ascribed to the large employment of oatmeal as an article of diet. It is said to be even more prevalent in Lapland, and is not at all uncommon in Wales, and in various parts of England where the diet is chiefly vegetable. The paroxysms usually come on in the morning and forenoon, when the stomach is empty. The first symptom is usually a pain at the pit of the stomach, often very severe, and increased on assuming the erect posture. The sufferer usually obtains relief by bending the body forwards. The pain continues for some time, and is then followed by the eructation of a thin watery fluid in considerable quantities. A case is recorded in which no less than three pints of this tasteless fluid were brought up every day. It has been supposed that when the fluid is tasteless and insipid it is formed in the mouth or throat, and does not come from the stomach at all. When, however, the fluid is acid, it may be taken for granted that at all events some of it comes from the stomach.

Next as to the treatment. It need hardly be said that when the disorder has arisen from the use of innutritious or unwholesome food, the adoption of a more generous and varied diet, including a sufficient proportion of meat, is essential. Many of the rules we have laid down regarding the diet of dyspeptics are applicable to the treatment of this complaint. In obstinate cases the most brilliant results have followed this prescription :—"When the patient is hungry, let him eat butter-milk, and when he is thirsty, let him drink buttermilk." Fresh milk is not so well borne, as it curdles in the stomach.

There are several medicinal preparations which are useful in the treatment of waterbrash. The compound kino powder of the Pharmacopœia is an admirable remedy. It should be taken in twenty-grain doses three times a day. The only objection to its use is that it contains opium, which has a tendency to confine the bowels. This difficulty may, however, be readily overcome by administering with it some simple purgative, as the watery extract of aloes, confection of sulphur and senna (Pr. 59), or the compound colocynth pill (Pr. 60). Bismuth (Pr. 18) usually succeeds admirably. If the ordinary dose should fail, thirty grains of carbonate of bismuth should be taken three times a day in a little water half an hour before meals. When the fluid which regurgitates into the mouth is distinctly sour or acid, nothing succeeds like dilute hydrochloric or nitric acid given before food. From twenty to thirty drops of either taken in a wine-glassful of water half an hour before each meal will, in these cases, usually effect a cure. When the fluid of pyrosis has an alkaline reaction, and is accompanied by much distress and nausea, and the vomiting of the just-eaten food, the acid should be given in the same dose, but just after food. In obstinate cases *nux vomica* (Pr. 44) or *pulsatilla* (Pr. 43) may be tried. A tea-spoonful of glycerine three times a day often proves useful.

In connection with the subject of pyrosis we may mention that rumination occasionally occurs in the human being. One of the most remarkable cases on record is that of a carpenter's apprentice. Although a sharp and intelligent young man, he was a "slow eater." In the struggle for existence, he found himself at a considerable disadvantage, for only a few minutes were allowed for meals by an exacting and ubiquitous taskmaster. It was obvious that he must either go with insufficient food, or swallow it whole and run the risk of suffocation. Having a natural dislike to hunger, he selected the latter course, and in process of time acquired the art of swallowing his food in wholesale pieces, and without any attempt at mastication. Having finished his meal, he usually repaired to the workshop, and no sooner commenced handling the implements of his craft than the regurgitation of the food commenced. As a rule, in ten or fifteen minutes after the meal was swallowed it was returned in mouthfuls, at intervals of from five to ten minutes, to be masticated and again swallowed until the whole contents of the stomach had been similarly served, when the abnormal process ceased. This regurgitation was first noticed about the age of fifteen, soon after this young carpenter entered on his apprenticeship. For the succeeding fifteen years he invariably returned to his mouth all his food, or nearly all, until at length, as time rolled on, and as fortune and circumstances improved, he had more leisure for his meals, and more time for what may be called primary mastication, and then this striking, novel, and supplementary process of

nature became modified, and gave way in great part to the more usual, less complicated process of preparing the food off-hand for admixture with the gastric juice, and for the processes of digestion and assimilation.

QUINSY—INFLAMMATORY SORE THROAT, OR TONSILLITIS.

This complaint consists essentially of inflammation of the tonsils and adjacent parts.

It is said to occur most commonly among young people, but it is frequently enough met with in middle-aged adults. Some individuals appear to have naturally a strong predisposition to this disease, and in them the attacks are usually more or less periodical, recurring at particular seasons, commonly during the variable weather of spring and autumn. The exciting cause is usually exposure to cold or damp, or both combined. At some seasons it is so prevalent that it might almost be said to be epidemic. At one time it was supposed to be contagious, but there is not the slightest evidence to show that such is the case. One attack usually predisposes to another.

The symptoms vary very much in different cases, according to the extent of the disease and the parts involved. In all but very mild attacks the invasion of the complaint is marked by a general feeling of malaise, by headache, and aching pains in the limbs, and a sense of chilliness, or even distinct rigors. The constitutional symptoms are usually severe, the temperature rising to 102° Fahr., and the pulse reaching 120 beats in the minute, or even more. The skin is moist, the tongue is covered with a thick yellowish creamy fur, and there is often headache. The bowels are confined, and there is generally much restlessness, particularly at night.

The local symptoms keep pace with the constitutional disturbance. At first a little dryness or uneasiness in the throat is experienced, but this gradually increases until it amounts to severe pain. Swallowing soon becomes very difficult and extremely painful, the pain shooting up towards the ears. There is considerable tenderness behind the jaws, and on this account some difficulty may be experienced in opening the mouth. The glands of the neck become enlarged and hardened, and very frequently the whole neck itself is stiff and swollen. Later on swallowing becomes still more difficult, fluids return through the nose, and the throat feels as if it were completely blocked up. The speech is altered, and is not uncommonly thick, guttural, and inarticulate. There is often more or less deafness on one or both sides, particularly if the tonsils are much enlarged. In some instances there may be a sense of suffocation on lying down, but in adults this is not common.

If the tongue be depressed with the handle of the spoon so that the back of the throat may be examined, it will be found to be redder than natural, and the tonsils, greatly enlarged, will be seen projecting, perhaps to such an extent as almost to meet in the middle line.

In mild cases the inflammation may gradually subside, but far more frequently it runs on to the formation of matter. After a few days a pale yellowish spot is seen on the surface of the tonsil, indicating the point at which the matter tends to escape. The abscess usually bursts during some effort made by the patient in

coughing, swallowing, or clearing his throat. The matter discharged has usually a fetid odour, and a disagreeable taste. Sometimes this circumstance alone indicates to the patient what has happened, for the quantity of matter may be so small as readily to escape notice. The relief which ensues on the bursting of the abscess is very striking. The pain almost at once subsides, and the difficulty in swallowing is in a great measure removed. Although both tonsils may be affected, usually matter forms in only one of them.

Quinsy is a very disagreeable complaint, but fortunately it is attended with little or no danger. Common as it is, death from this cause is almost unknown. The duration of an attack is usually some five or six days, but occasionally it will keep the patient in bed, or at all events in the house, for ten days or longer.

Next, as to the treatment of quinsy, the remedy *par excellence* is aconite. It should be given in half-drop or drop doses of the tincture in a little water every ten minutes or quarter of an hour for two hours, and afterwards hourly. If there is much prostration, with weak and feeble pulse, a smaller dose should be given. The medicine may be conveniently administered in the form of the aconite mixture (Pr. 38), every tea-spoonful of which is equivalent to about a drop of the tincture. Aconite, if given in the early stages of quinsy, acts like a charm. The dry, hot, burning skin becomes in a few hours comfortably moist, and in a little while longer is bathed in a profuse perspiration, the sweat not uncommonly standing on the face and chest in large drops. With the sweating comes speedy relief from many of the most distressing sensations, as restlessness, chilliness, heat and dryness of the skin, aching pains and stiffness. At the same time the quickened pulse becomes far less frequent, and in a period varying from twenty-four to forty-eight hours both pulse and temperature regain their natural state. If caught at the commencement, a quinsy or acute sore throat seldom fails to quickly yield to this treatment. The sweating may continue for a few days after the decline of the fever. If administered sufficiently early, the beneficial effects on the local symptoms are very striking. The large, livid, red-glazed, dry tonsils within twenty-four hours present an appearance indicating that the acute stage of inflammation has subsided. Just at this point a strong astringent, such as glycerine of tannin, applied well to the inside of the throat by means of a brush, will quickly remove most of the remaining unhealthy appearances, and also any pain that may still be lingering.

There are several different forms of sore throat, but it is only in those cases in which the patient is feverish that aconite does good. In the ordinary relaxed sore throat its administration is useless. Directly you get a sore throat, pull out your thermometer and take your temperature. If you find it elevated, you know that your remedy is aconite; if you find that it is normal, you know that aconite will do no good. In the treatment of inflammation, and more especially of inflammation of the throat, the thermometer and the aconite bottle should go hand in hand.

Belladonna is a useful remedy in quinsy. It is chiefly indicated when there are bright redness and rawness of the affected parts, with flushed face, glistening of the eyes, headache, and pain and difficulty in swallowing. The tincture of belladonna should be given in the same way and in the same doses as the tincture of aconite. The belladonna mixture may be used (Pr. 39). We prefer, as a rule, not giving this

remedy until the patient has taken aconite for some twenty-four hours or more. In many cases, however, the two remedies may be associated; they are not to be mixed, and they are not to be given together, but alternately—a dose of aconite one hour, a dose of belladonna the next, then again the aconite, and so on.

In certain conditions of quinsy the influence of grey powder is most marked. Pr. 71 may be employed, a powder to be taken every two or three hours. It is especially indicated when the tonsils are so enlarged as almost to meet; when the difficulty in swallowing is almost insuperable, and when the obstruction to breathing is so great that the patient seems to be in danger of suffocation. In these cases it acts like a charm, the swelling quickly subsides, and in a few hours the crisis is passed. Even when matter has formed, its maturation and evacuation are facilitated.

Grey powder is not usually required quite at the commencement of the attacks. In many cases our treatment of quinsy runs as follows: first a course of aconite, then one of belladonna, and finally one of grey powder. The indications for each of these remedies should be carefully considered.

Another good medicine, when matter has distinctly formed, is sulphide of calcium. It should be given in the form of the pilules (Pr. 68), one every quarter of an hour for the first hour, and then hourly for five or six hours.

Carbonate of baryta in small doses has been highly recommended in the treatment of quinsy. It must be given early, before matter has formed, and it is essential to give it frequently.

Guaiacum is a capital remedy for tonsillitis. Send for a bottle of “ammoniated tincture of guaiacum,” and take a tea-spoonful of this in milk every four hours. It is distinctly nasty, but you must not mind that. It is essential to take the full quantity, for small doses do hardly any good. In the case of children, who have frequently very decided opinions as to the inadvisability of taking nasty medicines, it may be better to give small doses of the aconite mixture, which is perfectly tasteless. It has been said that guaiacum proves of service only in “rheumatic” sore throat. This is not the case, for it answers admirably in ordinary quinsy.

Next as to the general treatment, and the accessory measures to be employed. The first thing is to go to bed—there’s no help for it, and there’s not a bit of good your trying to keep about, you’ll only make yourself worse, and, perhaps, be laid up for a fortnight. You must go off to bed *at once*. No, presently won’t do, every hour is of importance. You must have a hot-water bottle in the bed, and the fire must be lighted. Put the kettle on the hob, so that the steam may escape into the room and keep the air moist. You must have the window open for a good inch at the top, or the room will get abominably stuffy, and that’s the worst thing in the world for a sore throat. Shall you send for a doctor? No, you’ll get on very well if you will only keep your wits about you. Where’s your tincture of aconite bottle? Haven’t you got any? Then you ought to have. Send to the chemist’s for it without a moment’s delay. No, don’t go yourself; you are not to go out on any account. And just say, if you please, that you will feel obliged if the chemist will let

you have it at once, as it is a matter of importance. Says he will send it round by-and-by, does he? Nonsense, that will never do, you must have it at once; it is no use sending medicine for people after they are dead and buried!

And what else is there to be done? You had better get some clear ice and have it broken up into little lumps about the size of a small walnut, and then set to work and suck it. It is very beneficial in many diseases of the throat, but especially in tonsillitis. It helps to subdue the inflammation, and is at the same time very grateful, for it allays the heat and pain, and checks the abundant secretion of mucus, which is often so harassing, from the constant hawking and swallowing which it occasions. You must keep on sucking the ice as constantly as you can, and must not give it up till you are distinctly better. You can't get any? Well, it is rather a bother sometimes in the country. What are you to do? You must use warm applications instead of cold then—that is all. You may put on a good hot linseed-meal poultice, right across the front of the throat, extending from ear to ear. Then you should inhale the steam of hot water. If you haven't a proper inhaler, an ordinary jug will do perfectly well. Get it filled with hot water, and put your mouth over the top, and breathe away. You had better put a towel round the mouth of the jug, and then you will not burn your face. If you try inhalation in bed, mind you do not by a sudden movement upset the jug. Boiling water applied to the legs undoubtedly acts as a powerful temporary stimulus, but it is not a method of treatment of any service in tonsillitis.

Very frequently a warm milk-and-water gargle proves very soothing. A well-known medical writer says: "The only gargle which I should consider admissible in the commencement of the malady is a gargle of warm milk-and-water. I have known of one instance in which quinsy suddenly attacked a gentleman who was extremely anxious to use his throat in public speaking the next day. He occupied himself perpetually for some hours in this sort of fomentation of the tonsils with hot water, and with such good effect, that on the day following he was able to accomplish his object." Some people use a gargle of vinegar and honey, whilst others devote their energies to sucking saltpetre balls. And what about calomel? Isn't calomel the right thing to begin with? No, certainly not; if your bowels are confined you may get them open by some simple purgative if you like, but that is all you want. Nine times out of ten, if taken sufficiently early, aconite or guaiacum will effect a cure. If there is much shortness of breath the doctor had better be sent for, as the enlarged tonsils may be causing some obstruction, and it may be necessary to make a little prick in one of them to let the matter out.

RELAXED SORE THROAT.

This may either be the sequel of an acute sore throat, or it may make its appearance quite independently of any previous febrile disease.

It occurs most frequently in people of somewhat feeble constitution and sedentary habit. It is often caused by excessive indulgence in smoking.

The symptoms complained of are chiefly uneasiness at the back of the throat,

increased by swallowing, and a slight, dry, hacking cough. Impediments in speech, or alterations of voice, are not common, and difficulty in swallowing is still more rare.

On examining the throat by the aid of a looking-glass it will be found to be more or less relaxed and swollen. The uvula is usually much elongated, so that it bends down and touches the back of the tongue, keeping up a constant sensation of tickling, and giving rise to the slight hacking cough.

This is not a febrile complaint, and there is consequently no constitutional disturbance. The pulse and temperature are normal, and there is neither headache nor loss of appetite. The patient may be a little pulled down, but this is more likely to be one of the factors in the production of the complaint than a result of it.

A relaxed sore throat is by no means an easy thing to get rid of. It often hangs about week after week, nothing apparently doing it any good.

In most cases it depends on what we call "debility," or "want of tone," of the whole system, and until this is remedied local applications are not likely to do much good. In most cases the general health may be improved by the administration of the ammonia and bark mixture (Pr. 13). It is a powerful tonic, but its action should be aided by taking three or four glassfuls of good port wine daily. Sometimes more benefit would be obtained from the quinine mixture (Pr. 9). When there is marked anæmia, one of the astringent preparations of iron, such as Pr. 1 or 2, may prove of service. The phosphate of lime and iron powders (Pr. 77) are in many cases useful.

It is very essential that plenty of out-door exercise should be taken, and the patient should remain in the house as little as possible. If a resident in London he cannot do better than get on the top of a 'bus or tram, and go for a good drive. On a summer's afternoon or evening, a run up the river on one of the boats is an excellent tonic. A trip to Gravesend is not to be despised. If the patient, from the nature of his engagement, is unable to get away till late, he should turn out an hour earlier in the morning, and get his blow that way. Many people who habitually go to the city by the Underground would derive considerable benefit by occasionally walking to their place of business on a fine morning. A four miles' spin, even on the flags, is not a bad preparation for a day's work.

Next, as to local applications. Undoubtedly one of the best, if not the best, is glycerine of tannin. Get a bottle of it from your chemist, and a brush. Sit down in a chair with your mouth wide open, and get some good-natured friend to thoroughly swab out the back of your throat for you with this application. Have this done for you two or three times daily for three or four days. If the condition of your throat keeps you awake at night, get it done at bed-time as well. It is a powerful astringent, as you will probably find out. It will quickly cure a cough if this has been kept up by the irritation of an elongated uvula. This method of treatment is often followed by the most satisfactory results. Tannin lozenges or red-gum lozenges are sometimes used, but they are not at all equal to glycerine of tannin.

When the throat is dry and glazed, guaiacum lozenges often answer well; one or two should be taken occasionally. A gargle made by adding a drachm of tincture of

capsicum to half a pint of water will be found useful. It should be employed three or four times a day. Pr. 84 is a good one. An alum gargle is often recommended, but it is far inferior to the glycerine of tannin.

The inhalation of steam impregnated with some stimulating volatile principle is of the greatest service. An excellent formula is, three drachms each of creosote and glycerine added to three ounces of water; a tea-spoonful to be added to a pint of hot water and the steam inhaled for five minutes twice or three times a day.

In chronic sore throats spray inhalations often prove very useful. The following ingredients are most to be recommended:—

- | | |
|---------------------------------|----------------------------------|
| (1) Alum | 15 grains to the ounce of water. |
| (2) Tannin | 15 grains " " " |
| (3) Perchloride of Iron | 1 grain " " " |
| (4) Sulphate of Zinc | 5 grains " " " |

The quantity of either of these solutions to be used at each inhalation is two or three tea-spoonfuls. They are all astringent, and we are unable to say which should be employed in any particular case.

If you are suffering from sore throat you should either temporarily give up smoking or should smoke in the very strictest moderation. If you can possibly get away for a holiday, do so at once.

REMITTENT FEVER (*See* TYPHOID, TYPHUS, AND OTHER FEVERS).

RHEUMATIC FEVER, OR ACUTE RHEUMATISM.

Rheumatism may occur either as an acute or as a chronic disease. When it occurs in the acute form we call it acute rheumatism, or rheumatic fever.

Rheumatic fever is in this country one of our commonest, most painful, and in some respects most perilous diseases. It is perilous, not because it kills the sufferer outright, but because it too frequently lays the foundation of heart disease.

The commonest exciting cause of rheumatic fever is cold or cold, and wet combined. A young man goes out for a walk, gets wet through, comes home, neglects to change his clothes, and sits about in his wet things, gets a chill, and a few days after is taken ill, and is found to be suffering from acute rheumatism. This is a common story, and one which is familiar enough to every one who has seen much of sickness and suffering either in the wards of our hospitals or in the privacy of home life. There are, of course, differences in detail: one person gets overheated and sits in a draught, another is put into damp sheets, and so on, but the principle is the same. Scarlet fever is sometimes followed by a complaint which, if not identical with rheumatic fever, very closely resembles it. It is probable that the eruption of scarlet fever, by arresting the functions of the skin, acts in very much the same way as does exposure to cold and wet. In a certain number of cases of rheumatic fever the patient is unable to attribute the complaint to any definite cause, and it is probable that when there is a strong family predisposition it may arise, as we say, spontaneously.

Rheumatism, both in the acute and chronic forms, is probably an hereditary disease, but this influence is far less marked than in the case of gout.

Rheumatic fever is principally a disease of youth, and in this respect again it differs essentially from gout. It is found to occur most commonly between the ages of sixteen and twenty.

It is rather more common in men than in women.

Its development is favoured by anything which lowers the general state of health. It is partly from this cause, and partly from the fact that they are more constantly exposed to wet and cold, that rheumatic fever occurs most frequently in those who are poor and ill-fed, and whose lot it is to toil.

Rheumatic fever is always most prevalent in climates remarkable for damp and variable weather, and it is consequently not to be wondered at that it is a very common disease in many parts of this country.

We must now proceed to consider the course of an ordinary attack of rheumatic fever. We have already supposed the case of a young man suffering from acute rheumatism as the result of exposure to wet and cold. What happens to him? At the time he probably experiences some kind of chill or rigor, although it need not of necessity be very severe. Two or three days after he feels feverish, and finds that some of his joints are affected. His temperature is high, his pulse rapid, and the whole surface of the body hot and bathed in perspiration, having a peculiar acrid or acid odour. His tongue is coated with a thick creamy fir, there is loss of appetite and usually increased thirst, with constipation of the bowels. The urine is scanty and high-coloured, and gives rise to a copious red deposit on cooling. The ankles, or perhaps the knees, are painful and powerless to bear the weight of the body; on examination they are found to be hot, tender, swollen, and somewhat flushed on the surface.

When the disorder is at its height it is difficult to conceive a more complete picture of helplessness and suffering than that to which the patient is reduced. A strong and powerful man generally unused to illness lies on his back motionless, unable to raise his hand to wipe away the drops of sweat which flow fast from his brow in the paroxysms of pain, or the mucus which irritates his nostrils. Indeed, he is so helpless that he has not only to be fed, but to be assisted at every operation of nature. The sweat in which he is drenched brings him no relief; his position admits of no change; if he sleeps, his sleep is short, and he awakes with an exacerbation of pain which renders him fretful, impatient, and discontented with his lot and all around him.

The duration of an attack of acute rheumatism is very variable, but it lasts, as a rule, for about twenty-one days. There is probably no disease which is more variable in its duration than rheumatic fever. Some people get over an attack in five or six days, whilst others take as many weeks before they can succeed in completely throwing it off. The pain, redness, and swelling of the joints gradually subside, the temperature falls, the sweating diminishes, the tongue becomes clean, and after a time the patient is pronounced convalescent.

So far we have considered only a simple case of rheumatic fever, in which the inflammation has been limited to the joints. In a large number of cases the disease

extends to the pericardium, or bag or membrane which encloses the heart, giving rise to the disease which we call "pericarditis." This inflammation may result in the formation of a quantity of fluid in the pericardium surrounding the heart, and then we have a condition of "pericardial effusion." Frequently the inflammation attacks the endocardium, or membrane lining the heart, and then we have what is called "endocarditis." Sometimes the substance of the heart itself is attacked, and then we have that condition which we speak of as "myocarditis." In fact, in nearly all cases in which there is pericarditis or endocarditis there is more or less myocarditis. The occurrence of these complications is a matter of very serious moment to the patient. Sometimes they set in with pain and tightness in the chest, but they may come on quite insidiously, and without anything to attract attention to what is going on. The medical man can always detect their existence by carefully listening over the region of the heart, and it is for this reason that he is always so particular to examine the chest with his stethoscope every day. Were he not to take this precaution he would have very little real knowledge of the progress of the case.

Pleurisy sometimes occurs as a complication of rheumatic fever, but far less commonly than heart disease.

The inflammation in rheumatic fever is seldom confined to one joint, but shifts about in the most erratic manner. This morning, for example, the pain may be confined to the right knee, a few hours later it may have entirely subsided, whilst before night it may re-appear in the corresponding joint on the opposite side, or perhaps in the ankles or wrists. This "metastasis," as it is called, is always a marked feature of acute rheumatism. In the majority of cases in the first attacks only the larger joints of the body are affected.

The pain in the joints is generally very severe, but less intense than in gout. A humorous Frenchman, endeavouring to convey his idea of the relative pains of gout and rheumatism, once said, "Place your joint in a vice, and screw the vice up until you can endure it no longer. That may represent rheumatism. Then give the instrument another twist, and you will obtain a notion of gout."

The temperature of the body, as estimated by the thermometer, is usually elevated by some three or four degrees. The rapidity of the pulse is in acute rheumatism no guide to the amount of fever, as the existence of heart disease as a complication would tend to influence its rate. To arrive at a knowledge of the amount and severity of the fever it is absolutely necessary to employ the thermometer.

The smell of the perspiration in this complaint is very characteristic, and will often enable the practised observer to make a shrewd guess as to the nature of the illness from which the patient is suffering before asking a single question.

A person who has once suffered from rheumatic fever is very likely to suffer from it again. The occurrence of one attack imparts a great susceptibility to the system for its return, and this is increased with every successive attack, so that after a time the patient is liable to become the victim of frequent seizures. It very commonly happens that the second and third attacks are less severe than the first.

Sometimes the disease assumes a sub-acute form, intermediate in its characters

between chronic rheumatism and rheumatic fever. In these attacks there is usually slight swelling, heat, and tenderness of the joints, but there is very little, if any, fever. Even in patients who have suffered long and severely from repeated attacks of acute or sub-acute rheumatism it is unusual to find that any deformity or alteration in the shape of the joints has been produced.

We have already had occasion to refer incidentally to some of the chief points in which gout and rheumatic fever differ. It is, however, a matter of convenience to have these facts arranged in a tabular form. It is of the greatest importance to be able to distinguish the two diseases, for gout is readily amenable to the influence of colchicum, whilst acute rheumatism is but little influenced by its administration.

DIFFERENCES BETWEEN GOUT AND ACUTE RHEUMATISM.

Gout.

Acute Rheumatism.

Age.—Occurs most commonly in people over thirty.

Occurs most commonly in young people.

Sex.—Occurs much more frequently in men than in women.

Occurs with almost equal frequency in the two sexes.

Hereditary.—Is decidedly hereditary.

Is hereditary, but not very decidedly.

Social Condition.—Occurs most commonly in those who live luxuriously.

Is the lot of the poor and ill-fed.

Joint.—In earlier attacks usually affects only one joint at a time, and most commonly the great toe.

Usually attacks the larger joints of the body, and frequently several at once.

Chalk-stones.—Often associated with the formation of chalk-stones.

Never leads to the formation of chalk-stones.

Perspiration.—Profuse perspiration not common.

Profuse acid perspiration a prominent symptom.

Heart.—No tendency to inflammation of the membranes of the heart.

Heart frequently affected.

We must now consider the course of treatment to be adopted in cases of rheumatic fever. As this is not a contagious disease, there is of course no necessity for isolating the patient. The usual precautions should be taken for ensuring cleanliness and thorough ventilation of the room and all that it contains. The chief points to which attention should be directed have been referred to whilst speaking of the general treatment of fever. The patient must, of course, be confined to bed, and should be kept as quiet as possible both physically and mentally. As profuse perspiration is a prominent symptom of the complaint, the sufferer should lie between the blankets, and not in the sheets. Linen which is wet or damp is apt to strike cold, and is not only unpleasant, but very likely to prove dangerous to the patient. A sudden check to the perspiration cannot fail to be injurious, and may even lead to a rapid transference of the inflammation from the joints to the heart. It should always be remembered that rheumatic fever is a very painful complaint, and that the touch of the physician, the handling of the nurse, or even the shaking of the bed by the footstep of an approaching friend, may cause the sufferer the most exquisite pain.

Respecting the diet there is little to be said. When the fever runs high, food

can be advantageously given only in the liquid form. Milk is one of the best kind of nourishment which can be administered for the maintenance of the strength. When it is not readily assimilated, and proves too heavy for the stomach, it may be advantageously mixed with an equal quantity of soda water or with lime water. Besides milk, beef-tea, mutton-broth, jellies, arrowroot, and other similar easily digestible substances may be given. To allay the thirst, soda water, lemonade, toast-and-water, or even plain iced water will be found useful. Wine or brandy is in young people seldom required, unless indeed there be much depression, as the result of heart mischief.

As the fever abates, a more generous diet may be allowed, commencing with light rice or sago or arrowroot puddings, and gradually progressing to white fish and fowl, and then to beef and mutton. The more the strength of the patient can be maintained, the less tedious will be the recovery.

A large number of different drugs have been recommended for the treatment of acute rheumatism—a fact which may be taken as an indication that we are at present acquainted with no specific for the disease.

The nearest approach to a specific for acute rheumatism will be found in salicine, a substance obtained from the willow. It should be given in thirty-grain doses in an ounce of water every two hours, according to Pr. 12. In very bad cases it may be given every hour until the pain is relieved. Very much larger quantities have been given without the production of any inconvenience. Given quite at the commencement of the illness, it will sometimes quickly cut short an attack. In cases in which it does good the beneficial action is usually apparent within twenty-four, and always within forty-eight, hours of its first administration. In acute cases the relief of pain and the fall of temperature usually occur simultaneously, but in sub-acute cases the pain is sometimes decidedly relieved before the temperature begins to fall. It has been claimed for salicine that it prevents the occurrence of heart disease, but the evidence on this point is inconclusive. Although this drug proves beneficial in the large majority of cases of acute rheumatism, it sometimes fails. In cases in which benefit has been experienced from its administration, it should be continued in twenty-grain doses every four hours for a week after the temperature has fallen to the normal. The influence of salicine on the temperature in acute rheumatism will be seen by reference to the chart given in the article on TEMPERATURE.

Salicylic acid has also been used in the same way as salicine, but it is very insoluble in water, is very nasty to take, and is not readily obtained pure. The only advantage it appears to possess over salicine is that it is cheaper.

Aconite has been highly praised by many eminent authorities in the treatment of acute rheumatism, and there can be no doubt of its usefulness. In many cases, however, it must be admitted that its administration appears to be ineffectual. It is especially indicated when the fever is high and there are violent shooting or tearing pains, worse at night, and aggravated by the touch. The most successful results are obtained when it is administered quite at the commencement of the disease. The aconite mixture (Pr. 38) may be used, the dose being a tea-spoonful every second or third hour. This is not at all equal to the salicine treatment.

Bryony may be given when the patient suffers from lancinating or stitching

pains, apparently affecting the muscles rather than the bones, and increased on the least movement, but improved by rest. It may be given according to Pr. 49.

When the pain in acute rheumatism is very severe it may be necessary to administer opium. A small dose of laudanum may be given by the mouth, but in the majority of cases a hypodermic injection of morphia will not only act more quickly, but will be less likely to upset the stomach. It must be remembered that opium is merely a palliative, and in all probability exerts no influence on the progress of the disease.

Small blisters in the neighbourhood of the affected joints often prove efficacious in relieving the pain.

By some people the administration of nitre in rheumatic fever is supposed to be attended with favourable results. As much as two or three ounces of the salt, dissolved in plenty of water, have been taken in the twenty-four hours without causing any inconvenience; but it must be admitted that there is no conclusive evidence to show that these large doses do any good. A great objection to their use is that unless the perspiration is very profuse patients are unable to take the large quantities of fluid in which the salt must, of necessity, be dissolved.

Bicarbonate of potash has been frequently given in thirty-grain doses every four hours. In many cases it relieves the pain, but it is unavailing in lessening the intensity or duration of the fever.

Large doses of tincture of perchloride of iron—from twenty to thirty minims every four hours—are sometimes given, but we are at present unable to express any definite opinion as to the value of this mode of treatment.

In some cases benefit has been derived from the administration of lime-juice in doses of eight ounces daily.

Colchicum is useless in this disease.

There can be no question as to the value of the cold pack in acute rheumatism. When the pain is too great to admit of the patient being moved, the front only of the body should be packed, and a cold compress, renewed every two or three hours, should be wrapped round each of the painful joints. In cases in which there is a prejudice against the cold pack the body should be thoroughly sponged with tepid or cold water several times a day, using soap if the perspiration is offensive. There is not the slightest fear of increasing the liability to heart mischief by the adoption of this method of treatment.

It will be seen from what we have said that there is great discrepancy of opinion respecting the treatment of acute rheumatism. Some doctors have even gone so far as to assert that all remedies are useless, probably assenting to the dictum of a celebrated physician, who, when asked what was good for rheumatic fever, replied, "Six weeks." It should be remembered, however, that that was before the days of salicine.

Individuals who have once suffered from rheumatic fever must be extremely careful as to their clothing; they should always wear a flannel vest and drawers, which may vary in thickness at different periods of the year. The feet should be kept dry and warm, and every precaution taken to avoid catching cold.

In all cases of rheumatic fever the attendance of a medical man is necessary.

In conclusion, we should wish to say one word of comfort, and that is, that however bad the attack of rheumatic fever may be, and even when it is complicated by heart disease, it seldom or never proves immediately fatal, and the patient is almost sure to get over the illness.

RHEUMATIC GOUT.

The term "rheumatic gout" is one which is employed somewhat loosely both by medical men and the public. It is not uncommon to hear gouty people say that they are suffering from rheumatic gout, simply because the disease which for years was manifested in the feet only now implicates other joints, as the elbows and hands. In fact, the same malady is often regarded as gout when it is confined to the feet, and as rheumatic gout when it affects the upper extremities. Sometimes the sub-acute forms of rheumatism are improperly called rheumatic gout, particularly when they affect the upper extremities. There is, however, a third disease which is neither gout nor rheumatism, but quite distinct from both, and it is this which it is our intention to discuss under the term of rheumatic gout. The ordinary technical term for this complaint is "rheumatic arthritis," but it is sometimes known as "nodosity of the joints."

True rheumatic gout may occur either as an acute or as a chronic disease, but as the latter form is much the more common, it is to this that our attention will be principally directed.

Chronic rheumatic gout may occur in either sex, and at almost any age. The ordinary course of the disease is somewhat as follows:—A young woman who is decidedly out of health, perhaps as the result of over-work and confinement to the house, catches cold, and after a few days experiences some pain in one of her knees, and on examination slight swelling and tenderness are detected. As the result of rest and judicious treatment, the pain subsides, and no more is thought of the matter. A few weeks later, or it may be months, the patient catches another cold, and the same or another joint is affected in a precisely similar manner. On this occasion, however, treatment is apparently of no avail, and the inflammation, instead of subsiding, gradually spreads to other parts. After a time almost every joint in the body may be affected, the complaint causing great distortion and deformity. These changes take place slowly, and may be attended with but little disturbance of the general health. In confirmed cases the hands are usually thin from the absorption of fat and the wasting of the soft tissues, and the knuckles are greatly enlarged so as to form big lumps, or nodes; sometimes the fingers are so bent and distorted one over another that they are, for all practical purposes, useless. The elbow in many cases cannot be straightened, and the wrists are rigid, and scarcely admit of motion in any direction. The knee is commonly much enlarged and rounded, and is often bent with difficulty. Sometimes, in very bad cases, the patient is rendered helpless and a cripple for life.

When the disease commences in the acute form, it closely resembles rheumatic fever; several joints are attacked, the swelling is considerable, and there is distinct increase in the temperature of the affected parts, with pain, tenderness,

and redness. In this complaint the profuse sweating which is so prominent a symptom of rheumatic fever is entirely absent, and the inflammation exhibits no tendency to fly from joint to joint, or to attack the heart or its membranes.

Rheumatic gout, as we have seen, is not a disease which is confined to any particular age. It sometimes occurs in children of from ten to twelve, and has been known to commence in very old people, above seventy. It is commonly thought that women are more likely to be attacked than men, and it is a recognised fact that any irregularity in the menstrual functions predisposes to its occurrence. It is not hereditary, a point in which it differs very markedly from gout. Everything which causes debility, or loss of tone in the system, as, for example, an attack of bleeding from the womb or elsewhere, deep or prolonged grief, or severe or protracted mental anxiety, acts as a predisposing cause of the disease. It is said in some cases to have resulted from rapid child-bearing, and from over-suckling. Cold is frequently an exciting cause, particularly if combined with depression of the functions of the nervous system. Malt liquors and wines exert no influence on its production.

It is of the greatest importance to be able to recognise the nature of the disease in cases of rheumatic gout, for upon its correct understanding often depends the future comfort and physical well-being of the unfortunate sufferer. It is often, too often, mistaken either for gout or rheumatism. From an attack of acute gout it may be distinguished by the duration of the complaint, by the large and small joints being equally attacked at the onset, by the great toes not being specially involved. Rheumatic gout is a progressive disease; it has no intermissions, for during the whole of the patient's life the nodes go on gradually enlarging, and impeding more and more the motions of the limb. The malady spreads from joint to joint without any alleviation in those which have been once attacked. In very chronic cases it is often only from the history of the onset that one is able to distinguish gout from rheumatic gout. In chronic rheumatism one seldom meets with the distortion of the joints which is so characteristic of the complaint now under consideration.

We must now consider the best method of treating this disease. It must always be borne in mind that it is a very intractable disease, and that in many cases all treatment proves unavailing. The most favourable cases for treatment are naturally those in which the disease is not far advanced, the affected joints few in number, and their mobility but partially interfered with. When treatment is resorted to quite at the commencement of the complaint, the disease may sometimes be eradicated from the system and a complete recovery may be the result.

In all cases a sustaining plan of treatment is imperatively demanded. All lowering treatment tends materially to increase the rapidity and severity of the disease. Colchicum, which does so much good in gout, is worse than useless, hence the importance of distinguishing between the two diseases. Everything that can be done should be done to support the strength of the patient. If the disease has been caused by loss of blood, and there is anæmia, the different preparations of iron are earnestly called for. A selection should

be made from Prs. 1, 2, 3, 4, 5, 6, 7, and 63. When in addition to the bloodlessness there is a relaxed habit of body, the more astringent preparations, as, for example, Prs. 1 and 2, are indicated.

When the nutrition is imperfect from any cause independent of anæmia, or loss of blood, cod-liver oil will be found of the greatest advantage. It is especially indicated in patients of spare habit, and when the disease has been attended with wasting. When cod-liver oil cannot be taken, pancreatic emulsion may be substituted. When the complaint has apparently arisen from depressing mental causes, such as anxiety, grief, or prolonged attendance on the sick, *nux vomica*—ten drops of the tincture in a wine-glassful of water three times a day—quinine (Pr. 9), or ammonia and bark (Pr. 13), may be administered with advantage.

Iodide of potassium (Pr. 32) is often of service; especially when the pains are distinctly worse at night. Sometimes, when no benefit is experienced from the ordinary five-grain dose, relief may be obtained by increasing it to ten, fifteen, or even twenty grain doses three times a day. It must be remembered that iodide of potassium is somewhat of a lowering remedy, and its effects should therefore be carefully watched. In many cases it proves advantageous to give it dissolved in the bark mixture (Pr. 13). The syrup of iodide of iron (Pr. 4) taken twice a day, and continued for some months, may prove of benefit, and it is said by some to have the power of completely arresting the progress of the disease.

Arsenic is undoubtedly of considerable value. The indications for its employment are unknown, and its action is apparently somewhat capricious. In some cases it acts like a charm, stiffened joints for a long time considerably enlarged becoming reduced to their natural size, and finally regaining their suppleness. Large doses, as, for example, five drops of the arsenic solution, or its equivalent, five tea-spoonfuls of the arsenic mixture (Pr. 40), three times a day, are necessary to produce this result. This treatment should be resorted to only under the immediate direction of a medical man, as some people are very susceptible to the action of the drug, and it is necessary to know when to stop its administration. It should always be borne in mind that the medicine may have to be taken with but slight intermissions for weeks or months, and that if an improvement does not speedily ensue, it is no proof that the medicine will ultimately prove ineffectual.

Actæa racemosa (*cinicifuga*) yields very satisfactory results in many cases of rheumatoid arthritis. It proves most successful when the pains are worse at night, and it is especially indicated when the disease is traceable to some derangement of the womb, a sudden suppression of the periods, an abortion, or a painful and difficult confinement. It is also indicated where the complaint first makes its appearance at the "change of life." The joints may not be enlarged, and the pains may flit from joint to joint instead of lodging steadily in one place. Painful cramps of the leg, aggravated by cold and wet weather, and by certain winds, frequently torment the sufferer, and break his rest at night. *Actæa* not only frequently gives relief from the pain and cramps, but induces quiet and refreshing sleep. In addition to these cases *actæa* sometimes proves of service when the disease occurs in men, and even when the pains are worse during the day. The *actæa* may be given in five-minim doses of the tincture in a little water every two or three hours.

In many cases local applications prove of service. In the early stages, when there is tenderness and swelling of the joint, temporary relief may be obtained by the application of a blister. When the affection has become chronic, and blisters have effected all they are capable of accomplishing, the application of narrow strips of plaster, one over another, so as to support the joint, may do good. Simple spirit lotions or belladonna liniment well rubbed in will sometimes ease the pain. Friction is usually not only serviceable but grateful. The joint may be well sponged with strong brine, and then rubbed dry so as to cause the salt to be absorbed.

Baths are very useful, especially when the skin is sluggish in its action, but care should be taken that they are not repeated sufficiently often to produce debility. The Turkish bath is often of the greatest service in these cases. The cold, or in winter tepid, douche may be played for about two minutes on the affected joint, which should then be rubbed till it is quite warm and dry. The use of hot sulphur baths often proves of service in chronic cases. An arsenic bath is sometimes employed. It is made by adding to the water four ounces of common washing soda and twenty grains of the salt known as arseniate of soda.

Respecting the diet little need be said. The patient should, if possible, live generously, and beer, wine, or spirits may be taken in moderation. For people whose pecuniary circumstances will admit it, a frequent change of air and scene is to be advocated. Prolonged mental exertion is hurtful, and all causes of anxiety should as far as possible be avoided. A removal to a moderately warm, dry, bracing climate during the winter months is to be advocated. There can be but little doubt that as a rule many of the foreign saline and alkaline waters, such as those of Carlsbad, Wiesbaden, and Vichy, do more harm than good. The springs most adapted for the subjects of rheumatic gout are those which contain iron in some easily digestible form.

RHEUMATISM, CHRONIC.

Chronic rheumatism is a complaint with which few elderly people are altogether unacquainted. It is sometimes the sequel of rheumatic fever, but more frequently a separate constitutional affection coming on quite independently of any previous acute attack. There is at first only slight constitutional disturbance, but the sufferer is constantly annoyed and his existence at length rendered miserable by wearing pains, causing him many a restless night, and destroying all comfort during the day.

The joints which are most frequently the seat of the pain are the knees, ankles, hips, and shoulders. Redness is seldom present in chronic cases, but stiffness and swelling of the joints are common accompaniments of the complaint. In many cases pain is for a long time the only symptom, and even this may be latent unless the part be moved. In some instances the pain is worse at night, being aggravated by the warmth of the bed, but in others warmth affords the greatest relief. It often exhibits great tendency to shift from joint to joint, often subsiding and then recurring. It is usually aggravated by vicissitudes of weather, and especially by the prevalence of east winds and cold and damp states of the atmosphere.

Chronic rheumatism is most common after thirty, and is especially prevalent

among the labouring poor, and those who are exposed to changes of season and weather, and to cold and wet. It is not, however, by any means confined to the poorer classes, for it frequently attacks those whose lot absolves them from the necessity of earning their daily bread. In many cases it is associated with, if not dependent on, derangement of the digestive organs. It is frequently of syphilitic origin, the pains of secondary syphilis being not uncommonly confounded with those of chronic rheumatism.

We must now consider the different methods of treating chronic rheumatism. It is desirable, in the first place, to pay attention to the condition of the general health, and should this be below par, steps should be taken to improve it. Care should be taken to see that the organs of digestion are in proper working order, and that digestion is performed naturally and easily. Such evils as indigestion and constipation should be removed with as little delay as possible. The patient must be protected against atmospheric vicissitudes by warm clothing, and should be cased in flannel from the neck downwards.

Chronic rheumatism, as everybody knows, is a very obstinate complaint, and many different remedies have been used or suggested for its cure. The medicine may be given internally, or the treatment may be purely local, or both methods may be combined. We will speak first of the internal remedies.

Iodide of potassium is a most valuable medicine for this complaint. It is especially indicated when the pain is *worse at night*. As we have already said, the pains of secondary syphilis cannot, as a rule, be distinguished from chronic rheumatism, but the nocturnal increase of suffering is to be regarded as an indication for the employment of iodide of potassium, whether the pain is referable to rheumatism or to some other cause. The fact of a patient suffering from a syphilitic taint would increase the chances of this remedy proving successful. Two table-spoonfuls of the iodide of potassium mixture (Pr. 32) should be taken three times a day.

Salicine, which succeeds so admirably in acute rheumatism, often does good in the more chronic forms. Pr. 12 may be employed.

Rhus toxicodendron, the poison-oak, is useful in rheumatic lameness of the lower extremities. It is indicated in all cases of rheumatism in which the pain is worse when at rest, but is relieved by motion. It also does good where on first moving after rest the pain is increased, and relief is not experienced until gentle and constant motion has been continued for some time. Drop doses of the tincture of *rhus* may be given in a tea-spoonful of water every two hours. This drug is often somewhat tardy in its action.

Actæa racemosa is useful in many forms of chronic rheumatism of the joints, and is more likely to do good when the pains are worse at night or in wet or windy weather. It has been found by an eminent writer on treatment to be of signal benefit in the following class of cases:—The patient is at first troubled with pains, apparently rheumatic, in most of the joints, unaccompanied by fever or swelling. The disease soon seats itself in one part, as the wrist and hand; the tissues here become much thickened and the bones enlarged, till after a time all movement is lost and the member becomes useless. Warmth allays the pain, and it almost ceases at night. The attack presents many of the characters of gonorrhœal rheumatism,

but there is no history of gonorrhœa. *Actæa* will often give instant relief in these cases, and restore the joints to their original suppleness and usefulness after iodide of potassium and other remedies have been tried in vain. It may be given in three-drop doses of the tincture every three hours in a tea-spoonful of water.

Aconite (Pr. 38) is often of service, and is more especially adapted to rheumatism of the shoulder and other large joints.

Pulsatilla (Pr. 43) often affords relief when the knee, ankle, or instep is the seat of the complaint. It is especially indicated when the pains fly from place to place. It nearly always proves useful when the patient is a delicate female suffering from some irregularity of the periods.

Bryony (Pr. 49) is useful chiefly when the lower limbs are affected. It is especially indicated when the pain is increased by motion. It has been found to succeed best in people of dark hair and complexion.

Nitrate of potash is indicated when the pains are accompanied by scanty high-coloured urine, becoming turbid on cooling. Ten grains of the salt dissolved in water and taken hourly or every two hours will, in most cases, soon increase the flow of urine and render it clear and limpid, when the rheumatic pains generally decline.

Lime-juice, taken in doses of from six to eight ounces daily, will sometimes prove successful when everything else has failed. It is not uncommon to hear people say that they have gone the whole "round of the doctors" without experiencing any benefit, and have then cured themselves by taking lime-juice.

Guaiaicum is often employed, especially in what is called "cold" rheumatism, in which the symptoms are relieved by warmth. Half-drachm doses of the ammoniated tincture of *guaiaicum* may be given every four hours in milk. It is the chief ingredient in the remedy known as "*Chelsea Pensioner*," which has obtained a great reputation with many old soldiers as a cure for "rheumatics." Its composition is as follows:—

CHelsea PENSIONER.

Take of Powdered *guaiaicum*, an ounce.

Powdered rhubarb, two drachms.

Bitartrate of potash, a drachm.

Sublimed sulphur, a drachm.

Powdered nutmeg, half a drachm.

Honey, a pound.

To be mixed thoroughly. Two large table-spoonfuls to be taken night and morning.

Another formula is:—

Take of Powdered *guaiaicum*, a drachm and a half.

Mustard powder, three drachms.

Sublimed sulphur, three drachms.

Powdered rhubarb, forty-five grains.

Nitrate of potash, forty-five grains.

Mix thoroughly. A tea-spoonful of the powder may be taken in milk at bed-time, or sufficient honey, treacle, or glycerine may be added to form an electuary, and of this a tea-spoonful may be taken.

We may mention incidentally that "*Chelsea Pensioner*" is useful in torpidity of the bowels, and is well adapted for the obstinate constipation of elderly people.

So much then for the internal remedies for chronic rheumatism. Let us now consider what local applications are at our disposal for the treatment of this obstinate complaint.

Iodine liniment may often be painted around the affected joints with advantage. It in many cases quickly relieves the pain.

When the pain is confined to one joint, a mustard or linseed poultice will often afford relief.

The application of flowers of sulphur often proves of use. When the complaint is situated in the lower extremities, it is not by any means a bad plan to resort to the old-fashioned custom of dusting the inside of the stockings with sublimed sulphur. A sulphur and linseed-meal poultice, equal parts, may be tried. The local application may be combined with the internal administration of sulphur, the dose being twenty or thirty grains in milk.

Concentrated essence of Jamaica ginger often proves efficacious. A tea-spoonful should be taken two or three times a day in wine and water, or other vehicle, and the affected part well rubbed with a mixture of equal parts of the essence and brandy. Should no benefit be experienced, a piece of flannel should be wetted with this mixture and worn on the part, the application being repeated as often as the skin will bear it.

There are several accessory means of treatment which may be adopted with advantage. For instance, the dull aching in the joints which often remains after an attack of acute rheumatism will often yield to galvanism. This is a mode of treatment which is most likely to prove of service when only one or two joints are affected.

The cold douche is often useful in removing the pain and stiffness of joints crippled by chronic rheumatism.

The cold pack is also frequently successful in these cases.

Warm baths are of great service, and especially baths of salt water at a temperature of not less than 100°.

The Turkish bath will in many cases afford prompt and complete relief, and this is a mode of treatment which we have in many cases seen followed by the most satisfactory results.

Very frequently a course of shampooing would prove successful. A professional shampooer may usually be obtained from the nearest Turkish bath establishment.

When the symptoms are very chronic, the cold sulphurous waters of Harrogate, or the hot sulphur springs of Aix-la-Chapelle, may be resorted to.

Sometimes drinking the alkaline waters of Vichy will do good, or when there is constipation in addition to the rheumatism, benefit may be experienced from a course of Carlsbad waters.

For rheumatic people, who can afford it, Ventnor, Hastings, Rome, and Nice would be good winter quarters. A temporary residence at a hydropathic establishment, such as Ben Rhydding or Limpley Stoke, might prove beneficial.

It may be said that we have here a very large number of remedies recommended, but which should we begin with? In the majority of cases we should commence treatment with the iodide of potassium mixture and the Turkish bath. We believe that iodide of potassium is of all others the drug which proves most successful, and

it would even effect a cure in cases in which the nocturnal exacerbation is not a prominent symptom.

We cannot leave the subject of rheumatism without saying a few words on what is known as gonorrhœal rheumatism. This affection consists of inflammation of and about the joints, following an attack of the complaint from which it derives its name. It differs from ordinary rheumatism in many important respects. In from ten days to three weeks after the establishment of the primary disease, one or more of the joints become stiff, painful, and swollen, possibly as the result of the patient having got a chill from exposure to the weather, or from sitting in a draught of cold air. At the same time the feet may be painful, there may be some inflammation about the eyes, and there will be considerable fever, with dry skin, and a furred tongue. The knee is more frequently affected than any other joint, possibly because it is a large and complicated structure, but little protected by muscles from atmospheric influences. The complaint occurs almost exclusively in men, and after the first attack the patient is exceedingly liable to a recurrence. Each attack is usually more virulent in its character than the preceding. After the first visitation slight stiffness may remain for several weeks, and the result of several attacks may be the occurrence of a permanently stiff and disabled joint, leaving the patient a cripple for life.

When the patient has reason to believe that he is suffering from this variety of rheumatism, he should at once consult a medical man, and lay the whole facts of the case before him. If the patient is foolish enough to suppress any part of the history, he may pay a penalty of lifelong misery.

When the complaint is vigorously treated at the very commencement of the attack, its progress may sometimes be arrested. When there is much constitutional disturbance, anti-febrile treatment will have to be resorted to, and it may even be necessary to abstract a small quantity of blood from the arm by bleeding. Leeches applied to the inflamed joints often aggravate the symptoms, and may do more harm than good. The constant application of poultices or hot fomentations to the affected joint, which must be kept absolutely at rest, will prove advantageous. The Turkish bath may be resorted to with very great benefit, the pain often quickly subsiding on the occurrence of profuse perspiration. Abstinence from meat and stimulants is usually absolutely necessary.

In chronic cases a combination of the iodide of potassium mixture (Pr. 32), with the frequent employment of the Turkish bath, is most likely to do good. A capsicum plaster applied over the painful joint, or one or two small blisters, about the size of a shilling, may prove of service. When the patient is much pulled down, it may be necessary to keep up the strength by a slight stimulating and tonic treatment. When the pain and swelling have completely subsided, gentle friction with shampooing may restore mobility to the affected joint. Sometimes it is necessary, in order to restore motion, to manipulate the limb after the patient has been placed under the influence of chloroform.

In conclusion, we would say that gonorrhœal rheumatism is not a complaint to be trifled with, and no man is justified in endeavouring to treat it himself.

RHEUMATISM, MUSCULAR.

This is a complaint which is usually regarded as being closely allied to rheumatism of the joints, the difference in the symptoms being supposed to depend on the peculiarities of the structures which are affected in the two diseases. Doubt has, however, been thrown upon the correctness of this opinion from the circumstance that the complaint now under consideration is never complicated by any disease of the heart or of its membranes.

Muscular rheumatism usually commences as an acute disease, but exhibits a decided tendency to become chronic. It may affect any of the muscles of the limbs or trunk, but is far more likely to occur in certain situations than in others. The seizures are not uncommonly quite sudden—for example, the patient may find on awaking in the morning that he is unable to make a certain movement, or to perform some particular act, without experiencing the most exquisite pain. Usually there is no pain whilst the muscles of the part are quiet, but the slightest movement suffices to excite a paroxysm. On examining the seat of suffering, nothing can as a rule be detected, but sometimes there is slight tenderness on pressure. There is often no fever or constitutional disturbance—at all events at first; but as the complaint progresses there may be thirst, loss of appetite, and even considerable elevation of temperature, as the result of the long-continued pain, and the want of sleep which it occasions.

We know very little respecting the causes of muscular rheumatism. It is most commonly met with in people of full adult age, and not uncommonly in individuals of a gouty habit. Exposure to cold and damp, and the over-use of the affected part, may act as exciting causes. One attack of the disease engenders a liability to its return.

The duration of the complaint cannot be definitely fixed. As an acute disease it is usually of brief duration, but in the chronic forms it often proves very rebellious to treatment, and its duration may be protracted almost indefinitely.

Muscular rheumatism is not confined to any particular region of the body, but may occur in almost any locality. The principal varieties are lumbago and crick in the neck, and we shall speak of the treatment of the complaint under these two headings:—

A. Lumbago.—This is a rheumatic affection of the muscles of the loins, those on one or both sides being involved. It is frequently very sudden in its mode of onset, the pain seizing the patient “all of a moment.” The pain is usually increased by every movement of the lower part of the spine, and by pressure upon the muscles of the affected part. It is not uncommon to see patients with lumbago leaning forwards and walking almost double. If they are told to “touch their toes” they generally express their inability to do so, although in many cases it appears on investigation that the pain is caused not so much by bending down as by the effort to get up again. Sometimes, however, the mere effort of stooping is very painful. We remember being told by a hospital patient a story which forcibly illustrates this fact. He was a butcher by trade, and his lumbago had been caused by lifting heavy weights and carrying the carcasses of sheep, bullocks, &c., on his

back. His complaint was very obstinate ; he was incapacitated from following his ordinary occupation, and, being unable to obtain other work, was in a few weeks reduced to the brink of starvation. One day, when very "hard up," he was strolling in Regent's Park, when he saw a sixpence lying in the grass. It seemed almost a godsend to him, and he was on the point of stooping down to pick it up when the pain in the loins seized him, and he was unable, in spite of his utmost efforts, to get near it. He described very graphically how he stood for over an hour looking at the sixpence, and fearing every moment that some one should come up and claim it. The method he finally adopted of obtaining the long-coveted treasure was, we trust under the circumstances, not very culpable. Seeing a little girl playing on one of the adjoining walks, he called her, and said, "Here, my dear, I've just dropped sixpence. Will you pick it up for me?" and in another moment it was in his possession. In this instance the patient was as powerless to stoop down and pick up that coin as if he had been paralysed. He had not actually lost the power of moving, there was no palsy, but he dare not move, because the effort gave him so much torture.

The remedies for lumbago are, as might be supposed, chiefly local. There are, however, other methods of treatment which are often attended with satisfactory results.

When the pain is very severe, relief may, in the majority of cases, be obtained almost immediately by an injection of morphia under the skin. This is a fact which has been known to medical men, and extensively employed for many years. The only objection that can be urged against it is, that in many people morphia gives rise to headache, giddiness, and other unpleasant symptoms. Quite recently a French physician made a somewhat curious discovery. He had a patient whom he had frequently treated with hypodermic injections of morphia for acute attacks of lumbago, but always with the production of a train of unpleasant constitutional symptoms. One day the patient called to say how glad he was to find he had made some alteration in the medicine, for the last injection had relieved the pain as usual, but had not produced any headache or giddiness. The doctor at once declared that he had used the same morphia solution as usual, and in order to convince the patient, sent for the bottle to show him. On examination the bottle was found to contain nothing but water, and on inquiry being instituted the servant confessed that some days before she had accidentally upset the bottle and spilled the contents, and that, fearing detection, she had filled it with water. The doctor at once saw that the fact was of value, and hastened to publish the discovery to the world. It then appeared from the testimony of numerous trustworthy observers that even the water was not essential, that it was the puncture with the needle which did good, and that equal benefit might be obtained without the injection of any substance at all.

The treatment of lumbago by "acupuncture," as it is called, is attended with the most favourable results. We have seen cases in which the relief has been instantaneous. The mode of procedure is very simple. The patient stands upright, holding up his shirt behind so as to expose the loins. The

only apparatus required is a good, strong, sharp needle, such as is ordinarily used as a shawl-pin. The person who is about to perform the friendly office for the patient grasps the needle firmly in his hand, and suddenly thrusts it for the distance of an inch or two into the loins over the painful part. The pain of the puncture is but momentary, and the needle, instead of being withdrawn, may be advantageously left sticking in for a few minutes. When the lumbago is double, the operation should be performed on both sides of the loins. We have cured many cases of lumbago by this method, and have never known it to be followed with any unpleasant consequences. Most instrument-makers keep needles fitted in bone handles for the performance of this operation, but the domestic substitute to which we have referred will answer equally well.

The Turkish bath, which is such a valuable remedy for nearly all complaints of a rheumatic nature, may be used with advantage in lumbago.

When a Turkish bath is not obtainable, the ordinary domestic linseed poultice may prove of service. In acute lumbago, poulticing often brings speedy relief, the severest cases being greatly benefited in a few hours, and generally cured in one or two days. The poultice must be very hot, and large enough to cover the whole loins or the part affected, and thick enough to remain quite hot for at least half an hour, when it must be changed. Should no benefit be obtained, this treatment should be continued for three hours or longer, then the skin must be covered with a piece of flannel, which in its turn is covered with oil-silk. This after-treatment, like that of the poultices, promotes free perspiration, upon which mainly depends the efficacy of this plan.

A diametrically opposed method of treatment, that of freezing the painful part, may sometimes be adopted with advantage. Two parts of finely-powdered ice, with one of common salt, are put in a gauze bag, and placed in contact with the skin until the sensation is abolished, and it has a leathery feel, and a shrunken, tallowy appearance. The application should not be continued for more than five or six minutes, or it may cause a blister.

One of the best and most convenient methods of freezing the part is by spraying upon it with ether, the evaporation of which produces intense cold. The spray apparatus which will be found most convenient for the purpose is known as Richardson's. It is that which is described and figured whilst speaking of the inhalation of ipecacuanha wine in the treatment of winter cough. A single application of the ether spray will in many cases afford speedy relief in lumbago.

The use of galvanism is not uncommonly attended with the most satisfactory results, the passage of what is known as the "interrupted current" effecting a speedy cure. When electricity, the needle, or poultices fail to give more than slight temporary relief, it will often be found that the lumbago is accompanied by high fever, and that it is in reality the first symptom of an attack of acute rheumatism or some other febrile disease.

The application of a good strong plaster over the loins will, by affording support to the parts, often give relief. Either the chalybeate plaster or the pitch plaster may be employed. It is desirable to have it spread on leather or some equally durable and substantial substance. In summer it is a good plan to have it

punched all over with a number of little holes, to admit of the evaporation of the perspiration, so as to avoid the troublesome itching which would be caused by its retention. Care should be taken to see that the plaster is smoothly and equally applied. An attack of lumbago, affecting perhaps the whole loins, often leaves behind it one painful spot which may cause distress only when the body is moved in one direction. Remains of a lumbago like this generally resists the usual methods of treatment, the pain being driven from one spot only to re-appear at another. A large belladonna plaster will generally mitigate the complaint, should it fail to remove it altogether.

Of the internal remedies, iodide of potassium and nitrate of potash (nitre) may prove useful under the conditions and in the doses referred to whilst speaking of chronic rheumatism. The former salt, however, not unfrequently fails to affect lumbago, even when the complaint is distinctly worse at night.

It has been claimed for *actæa racemosa* (*cimicifuga*) that it subdues lumbago more effectually than any other remedy. It is well worth trying in obstinate cases, but it must be admitted that it often fails. The dose is five drops of the tincture every two hours.

Rhus toxicodendron is useful in many cases of chronic lumbago. It is indicated when the pain is worse when the patient is at rest, but is relieved by movement, and also in cases in which on first moving after rest the pains are increased.

Sulphur in small doses is frequently of much advantage, and it can be administered either in substance or in the form of the sulphur waters of Aix-la-Chapelle, of Aix in Savoy, or Barèges. Arsenic (Pr. 40) is likewise occasionally adopted as a remedy in long-standing obstinate cases.

B. Crick in the Neck.—Crick in the neck, stiff neck, or, to use the technical term *torticollis*, is usually the result of a cold or of exposure of the affected part to a current of cold air. The pain is sometimes in the back of the neck, but more frequently it affects only one side, the patient being in the latter case compelled to hold his head awry in order to relax the muscles. A patient suffering from a stiff neck not uncommonly presents a somewhat comical appearance, and is often made the subject of much ridicule and joking, but for all that the complaint is a very painful one, and is sometimes very intractable to treatment. A stiff neck in children is not uncommonly the cause of a considerable elevation of temperature, the fever lasting three or four days or more.

When the pain of acute *torticollis* is very great it may be necessary to endeavour to obtain relief by the administration of a hypodermic injection of morphia. Local applications, however, not unfrequently prove successful. Hot fomentations are very valuable, as, for example, a piece of spongio-piline wrung out of hot water and applied either alone or sprinkled with laudanum, or belladonna liniment, or a combination of the two. Turpentine often proves useful in these cases. Over a flannel rung out of hot water a little turpentine should be sprinkled and applied till it produces redness, tingling, and smarting. It is well to bear in mind that as the smarting arising from the turpentine goes on augmenting for some time after its removal, the application should be kept on only just sufficiently long to excite a moderate degree of pain.

Undoubtedly one of the best remedies for a stiff neck is an infusion of capsicum, red pepper, or chillies, as it is sometimes called. The mode of preparation and application is sufficiently simple. You infuse a large handful of crushed capsicum pods in a pint of hot or cold water for thirty-six hours. You then soak a piece of lint in this infusion and apply it to the affected part, covering it all over with a thin piece of gutta-percha or oil-silk to prevent evaporation. This mode of treatment was long and successfully employed by a quack in the west of England. It never blisters or causes any inconvenience, and is so prompt in its action that it will often completely cure a bad case in ten minutes.

In the majority of cases we should put our trust in local applications, and above all in the capsicum treatment. The Turkish bath often proves useful as an adjunct.

SCARLET FEVER.—(*See DISEASES OF CHILDREN*, p. 41.)

SCIATICA.

Sciatica is neuralgia affecting the large nerve running down the back of the thigh. It not infrequently arises from cold, but may be due to other causes. The pain may be felt chiefly in the region of the hip-joint, or may extend almost to the foot. It is usually severe and greatly aggravated by movement. Not infrequently it is very persistent and difficult to cure.

Hints as to treatment may be gathered from a perusal of the articles on NEURALGIA and RHEUMATISM. It would be well to begin with a course of iodide of potassium, as recommended at page 479, two table-spoonfuls of the mixture (Pr. 32) being taken three times a day. This might be conjoined with the employment of Turkish baths, one being taken daily or alternate days. Should this not succeed, the dose of the mixture may be doubled, and the application of hot linseed meal poultices (*see* p. 485) substituted for the Turkish bath. Should this, too, unfortunately fail, chloride of ammonium might be taken internally (*see* p. 418), and the aconite ointment (p. 421) applied locally. A large blister running down the back of the thigh from the hip to the knee-joint often affords speedy relief. It may be raised by the application of blistering fluid, and if covered with a large sheet of cotton wool, gives rise to very little pain or inconvenience. Acupuncture (p. 484), galvanism (p. 485), and freezing (p. 485) with ice or ether spray, are all useful modes of treatment, and may be tried in turn. Sulphur, an old-fashioned remedy (p. 481), will sometimes effect a cure, as will the application of an infusion of chillies, as mentioned above (p. 487).

Turpentine, twenty drops in a little milk three times a day, is another good remedy. Some doctors give more than this, as much even as a table-spoonful every night at bed-time for a week or more. In obstinate cases it may become necessary to employ hypodermic injections of morphia.

SCURVY.

Scurvy, or scorbutus, as it is technically called, is a disease which is caused by the continued use of a dietary deficient in fresh vegetables.

It is considered by many that scurvy, either alone or by increasing the severity of other diseases, has proved more destructive to human life than any other disorder.

Scurvy occurs only when fresh vegetable food has been for some time partially or completely withheld. Various complaints follow the want of other descriptions of food, but scurvy never makes its appearance unless the supply of vegetables is limited.

The evidence on which this statement rests is of the most conclusive character, and no doubt can be entertained as to its correctness.

The year 1846, in which there was a failing of the potato crop in many parts of the country, was remarkable for the prevalence of scurvy. The disease occurred largely among the labourers employed in the construction of some of the Scotch railways, and in many cases proved fatal. The men were, as a rule, earning good wages, and were well fed; indeed, their extravagance in good living was a frequent subject of remark, but vegetables were in the majority of cases unattainable. Their dinner usually consisted of bread, boiled beef or bacon, pea-soup or broth, and suet puddings containing currants, and many of them were in the habit of breakfasting off beef steaks and mutton chops. For all that, however, very few of them had tasted potatoes since the failure of the crop, a period of over seven months.

In the same year in Ireland, where the disease proved very prevalent, it was found that in a certain district four-fifths of the people attacked were living on bread and tea or coffee, and that the remainder had nothing additional but a little grain or an occasional piece of meat or fish. In no single instance could it be discovered that potatoes or green vegetables formed an habitual article of the sufferer's diet.

The allied armies of England, France, Turkey, and Sardinia suffered severely from scurvy during the Crimean war. The total number of our men admitted into the hospitals with scurvy during the war amounted to considerably over 2,000; but we are told on authority that "the returns convey but a faint conception of the disastrous part which it acted among the troops, for although it comparatively rarely presented itself in well-defined forms, and as an independent infection, yet the prevalence of scorbutic taint was wide-spread, and in a vast proportion of cases evident indications of it existed as a complication of other diseases, especially fever and affections of the bowels." Sad as this history is, it is satisfactory to note that when fresh vegetables and lime-juice were served out, the complaint almost entirely disappeared. The sufferings of the French from scurvy were much greater than those of our troops; and it is said that among them no less than 23,000 cases occurred. It is probable that the Turks suffered even still more severely, and there is no doubt that the original force which formed part of the expedition from Bulgaria to the Crimea was almost entirely swept off by disease, of which scurvy formed an important element.

During the last American war, raw potatoes preserved in molasses were frequently issued to the troops, and were found to be of signal service in warding off scurvy. It is true the disease prevailed to a great extent in the United States

army, but it was when the men were obliged to live on marching rations and it was impossible to provide them with fresh vegetables, or any anti-scorbutic.

Since the year 1795, scurvy has been all but abolished from the British fleet, and when we remember that the security of this country has been on several occasions imperilled by the forced disestablishment of the Royal Navy through the ravages of this disease, it will we think be granted that we have something to be thankful for. It is to Dr. James Lind, "the father of nautical medicine," that we are indebted for the discovery that lime-juice has the power of warding off scurvy. It was, however, nearly half a century after the publication of Dr. Lind's celebrated work that any serious attempt was made to utilise it. In 1780 the number of cases of scurvy received into Haslar hospital was 1,457, in 1806 *one* only, and in 1807 also *one*. Scurvy is now so uncommon that many medical men, unless they happen to practise in a seaport town, have never seen a case. At the same time there is a growing opinion that scurvy is not such a rarity in the merchant service as it ought to be. Although the Legislature insists, under a penalty, that lime-juice or lemon-juice should be issued to the crews of vessels on long voyages, there is evidence to show that the provisions of the Act are but too frequently evaded, one of the best proofs being that the *Dreadnought* hospital still continues to receive annually an average of ninety cases of the disease. There can be no doubt that very frequently no lime-juice at all is furnished, or a cheap imitation, consisting of tartaric acid, sugar, and water, flavoured with essence of lemon, is substituted.

The "inexplicable and unlooked-for" outbreak of scurvy amongst the crews of the *Alert* and *Discovery*, whilst engaged in the Arctic expedition, is too fresh in the minds of our readers to call for any detailed notice.

Patients who, from disease of the stomach or other similar cause, are unable to take solid food, and are obliged to live almost exclusively upon beef-tea, are sometimes attacked with symptoms of scurvy. It is only necessary to bear this fact in mind to guard against its occurrence.

It has been frequently urged that scurvy might possibly arise from some other cause besides a deficient supply of vegetable food, as, for example, the long-continued use of salt provisions. We have not the slightest hesitation in saying that this proposition is untenable, and for two reasons:—(1.) There is no case of scurvy on record occurring in a person adequately supplied with fresh succulent vegetables of good quality. (2.) The occurrence of scurvy in persons living upon salt meat may be prevented by the regular administration of fresh vegetables or lemon-juice.

It has also been said that monotony of diet is an important element in the production of scurvy. The answer to this is that probably one of the most monotonous dietaries in the world is that upon which the poor inhabitants of Ireland thrive, consisting as it does almost entirely of stirabout, milk, and potatoes. They are a fine, well-built, often athletic race, and so long as they can obtain this food scurvy is unknown, but when the monotony is broken by the failure of the potato crop, the disease soon makes its appearance.

The symptoms of scurvy can hardly be mistaken. The earliest sign of the disease is a change in the colour of the skin, which becomes pale and sallow, and even assumes a greenish tinge. Contemporary with this is a peculiar listlessness,

and a disinclination for exertion either mental or physical. The patient usually complains of pains in the limbs, which he generally attributes to rheumatism. He seldom displays any anxiety about his health, and seems quite indifferent on the subject. He is keenly alive to any change in the appearance of his companions, but it is often a matter of no little difficulty to make him understand that he is suffering in the same way, or that anything is the matter with him. At first his appetite remains good, and his digestion continues tolerably perfect, but usually the bowels are confined. After a time petechiæ, or little spots like flea-bites, make their appearance on the legs and arms. They are small, of a reddish-brown colour, and are not elevated above the surface of the skin. Besides these, larger spots of an irregular shape, and apparently formed by the coalescence of several petechiæ, are observable about the lower part of the legs and on the feet. In many cases they so closely resemble bruises as actually to be mistaken for the result of violence. The general aspect of the patient is that of indifference or dejection. The face usually wears a peculiar bloated appearance. The eyes are often puffed up so that the patient looks as if he had been fighting. The gums present a peculiar condition, which is nearly always present, and may be considered as being characteristic of the disease. At a very early period they begin to swell at the edges, and this gradually progresses so that the teeth are encroached upon, and eventually almost disappear from sight in the huge fleshy masses which encompass them. The swollen gums are spongy, of a dark red colour, and display a disposition to bleed upon the slightest irritation. The teeth frequently become loosened in their sockets, and sometimes fall out. As may readily be imagined, chewing is out of the question, and even fluid nourishment is taken with difficulty. The smell from the breath, in consequence of the state of the gums, is generally most offensive. The skin is very dry, and often scales off with great readiness.

As the disease progresses, large swellings or tumours make their appearance in the bend of the elbow and at the back of the knee. The skin over these enlargements may retain its natural appearance or may become greatly discoloured.

Whilst these symptoms are gradually progressing, the patient suffers greatly from shortness of breath. He is frequently subject to attacks of fainting, and these have been known in many cases to prove suddenly fatal. The intellect, as a rule, remains unaffected, but listlessness is a constant symptom, and is often associated with great depression of spirits.

In confirmed cases the slightest blow or pressure breaks the skin, giving rise to the formation of the most obstinate ulcers, which heal with the greatest difficulty. They increase rapidly in size, and often eat into the flesh so as to lay bare the blood-vessels and nerves, and even the bones. They often give rise to dangerous bleeding, the exhaustion consequent upon which sometimes proves speedily fatal.

A peculiar affection of the sight often makes its appearance during the course of the disease. The patient can distinguish objects well enough by daylight, and even at night can read a book held close to a candle, but the moment he passes from the influence of the light he becomes absolutely blind, and has to be led about.

We must now consider the best method of treating scurvy. This necessarily consists of supplying the patient in the most easily assimilable form with that

material by the deficiency of which his disorder has been produced. Fruits and salads should be eaten *ad libitum*, and fresh lemon-juice, made into lemonade, should be taken in large quantities. The existence of diarrhoea or any other complication should form no excuse for withholding this treatment. No drug will do any good until the patient has vegetables or some anti-scorbutic remedy, and when this is administered an amelioration in even the most serious symptoms will soon be perceived. Lemon-juice is probably more easily digested than any other form of vegetable food, but oranges, limes, cabbage, lettuce, potatoes, onions, mustard and cress, dandelion, sorrel, or grapes, will answer almost as well. It is said that water-cresses prove quite as efficacious as lemon-juice in curing scurvy. Bael fruit has been highly recommended for the looseness of the bowels, which often accompanies this complaint. In addition to the administration of anti-scorbutic remedies, the patient's strength must be improved by such a diet as will most easily contribute to his nutrition. He may have beef-tea and eggs beaten up with wine, or, if he can bear it, solid fresh meat, roasted or boiled, with mashed potatoes, cabbage or salad.

There are certain fruits and vegetables in addition to those we have already mentioned which have the power of warding off scurvy and promoting its cure.

Amongst these may be mentioned apples, which often prove useful, but are far inferior to either oranges or lemons. Sauer-kraut has long been recognised as being very efficacious in this respect. It was by providing his crew with abundance of sauer-kraut, and encouraging them to seek for wild vegetables whenever he landed, that Captain Cook preserved their health during a four years' voyage in his ship *Discovery*. In the last American war the yam, which is extensively cultivated throughout the South, was found very beneficial. It is supposed from the immunity of infants from scurvy that milk possesses the power of preventing this disease to a large extent. A similar property is also attributed to many of the light French wines. Vinegar has undoubtedly well-marked anti-scorbutic powers. It is said that the efficacy of fruits in the treatment of scurvy is owing to the tartrate of potash, citrate of potash, and malate of potash which they contain, and these salts are consequently often administered, and apparently with advantage, when fresh vegetables cannot be obtained.

Spruce beer is an excellent thing for warding off scurvy. The essence of spruce is prepared by boiling down to concentration the young branches of the black spruce fir (*Abies nigra*). Take of this essence half a pint, bruised pimento and ginger of each four ounces, water three gallons. Boil for five or ten minutes, then strain, and add eleven gallons of warm water, a pint of yeast, and six pints of molasses. Mix, and allow the mixture to ferment for twenty-four hours. This was found very efficacious by Captain Cook in his voyages. It is an agreeable and wholesome drink in warm weather, and it has been suggested that it should be used in the merchant service instead of rum, which has no power of preventing scurvy. We are afraid the men would fail to appreciate the change.

A list of measures to be adopted in time of war, or in prolonged sojourn on board ship, or at stations where fresh vegetables are scarce, was drawn up

by the late Dr. Parkes, and they are so essentially practical in their nature that they cannot fail to be of service. We reproduce them in a slightly condensed form :—

1. The supply of fresh vegetables and fruits by all means in our power. Even unripe fruits are better than none, and we must risk a little diarrhoea for the sake of their anti-scorbutic properties. In time of war every vegetable should be used which it is safe to use, and when made into soups almost all are tolerably pleasant to eat.

2. The supply of dried vegetables, especially potato, cabbage, and cauliflowers; turnips, parsnips, &c., are less useful; dried peas and beans are useless. As a matter of precaution these dried vegetables should be issued early in a campaign, but should never supersede fresh vegetables.

3. Good lemon-juice should be issued daily (one ounce), and it should be seen that the men take it.

4. Vinegar (half ounce to one ounce daily) should be issued in the rations and used in cooking.

5. Citrate of potash or tartrate of potash should be issued in bulk and used in water as a drink or added to the food. The easiest mode of issuing these salts would be to have packets containing enough for one mess of twelve men, and to instruct them how important it is to place them in the soups or stews. Possibly they might be mixed with salt and issued merely as salt.

The following directions for the preservation and use of lemon-juice were issued by the Board of Trade. They are intended chiefly for the information of shipowners and shipmasters, but are likely to prove of service under other circumstances.

Every ship on a long voyage should be supplied with a proper quantity of lime or lemon juice.

The juice, having been received in bulk from the vendors, should be examined and analysed by a competent medical officer. All measures adopted for its preservation are worthless, unless it can be clearly ascertained that a pure article has been supplied.

Ten per cent. of brandy (sp. gr. 930) or of rum (sp. gr. 890) should afterwards be added to it.

It should be packed in jars or bottles each containing one gallon or less, covered with a layer of oil, and closely packed and sealed.

Each man should have at least two ounces (four table-spoonfuls) twice a week, to be increased to an ounce daily if any symptoms of scurvy manifest themselves. The giving out of lime or lemon juice should not be delayed longer than a fortnight after the vessel has put to sea.

SEA-SICKNESS.

We have no intention of entering into a scientific discussion as to the causes of sea-sickness; those of our readers who are not suffering from *mal de mer* would probably be but little interested in it, whilst those who are paying involuntary tribute to old Neptune are certainly not in a fit condition to appreciate it. There is

probably no derangement of organic function not absolutely a disease which causes a greater amount of suffering, and is more frequently fraught with real danger to health, and even life, than sea-sickness.

We will proceed at once to discuss the different modes of treating the distressing malady. Some people have advocated the use of certain drugs and medicinal agents, whilst others have relied solely on mental measures. These latter, it seems to us, can be of use solely as adjuncts. That the mind does exert a powerful influence over even such a frightful malady as sea-sickness no one can deny. This is stated to be observed in a striking manner in shipwrecks, when danger instantly renders everybody alert, even those who but a moment before were prostrate and reeked not what became of them. Not long ago a letter appeared in one of the papers recommending people threatened with sea-sickness "to hum a tune with regular and rather prolonged cadences." The writer says it proved most successful in his own case, and warmly advocates its general adoption. It can hardly be expected, however, that the passengers would consent to form themselves into a temporary choral society, or that this mode of treatment could be successfully maintained during a long voyage. Much importance has been attached to retaining the horizontal position from the first moment of going on board, but this alone will not suffice to ward off an attack. In fact, we could hardly expect that it would do so, for it is well known that many animals whose position is not vertical suffer severely from sea-sickness. Quite recently it was reported that an elephant crossing from Boulogne to Folkestone was greatly distressed, and dogs are not unfrequently sick in crossing the Channel. There is no doubt that one's position with regard to the vessel is not without its influence. The nausea which with the face to the bow is trifling may be increased to immediate vomiting by turning round into the opposite position for a few minutes. In association with this fact it will be remembered that the motion in a swing, which is agreeable as long as the eyes are open and the movement watched, is changed to intense nausea as soon as the eyes are closed and the motion unforeseen. Moreover, it is well known that many people feel sick when riding in a carriage with their backs to the horses.

Of late years the treatment of sea-sickness by means of the spinal ice-bag has come into vogue, and the evidence adduced in its favour is very striking. It is supposed that in sea-sickness there is an abnormal supply of blood to the spinal cord, and it is obvious that upon this supposition any mode of treatment which would reduce this quantity would prove beneficial. At first sight it would seem that the application of ice to the spine would be anything but agreeable; but those who have used it are unanimous in asserting that, on the contrary, it is quite pleasant. It is obvious that ice applied in bladders, or by any of the ordinary methods, would occasion great discomfort, and would restrain the movements of the patient, and compel him to remain for the most part in one position. The spinal ice-bag is made of india-rubber, the mouth being closed by means of a clamp, which effectually prevents the water from escaping as the ice melts. These bags, which are usually known as "Chapman's spinal ice-bags," may be obtained from most surgical instrument makers and druggists. The following sizes are made:—8, 10, and 12 inch, suitable for children; 14, 16, and 18 inch, suitable for boys and

girls; 20 and 22 inch, suitable for women; 24 and 26 inch, suitable for men. The bags are divided into cells—usually three. By this arrangement the ice is prevented from falling to the bottom, and can be kept accurately in contact with all parts of the spine. It is of importance not to fill the cells sufficiently to make them round, or only a small portion of the bag will touch the skin. The mouths of all the cells are effectively closed by means of the clamp, so that not a drop of water can escape even when all the ice has melted. Before purchasing it is as well to see that the clamp acts properly. Directions for filling and applying accompany each bag, so that no difficulty will be experienced on this score. The bag is retained in position by means of tapes, or may be sustained in the case of men by buttoning the waistcoat and coat lightly over it, or, in the case of women, by tightening the dress in like manner. When properly secured the wearer need not

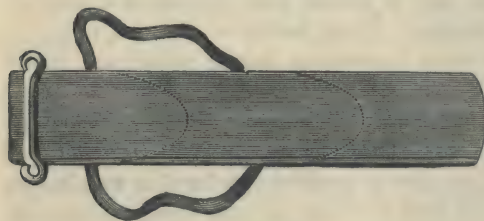


Fig. 9.—SPINAL ICE-BAG.

remain lying down, but is able to sit up or walk about as usual. For short passages the bag should be filled before starting, but on most of the trans-Atlantic steamers ice is obtainable in any quantity, and the bag may be replenished as necessity indicates. Each bagful when applied to the back melts in about a couple of hours. For the

passage between Dover and Calais one bagful suffices, and one will be sufficient between Folkestone and Boulogne unless in cases of unusual severity. Between Newhaven and Dieppe three bagfuls are required, and between Dover and Ostend two. As the Channel steamers do not usually carry ice, at all events in sufficient quantities for filling ice-bags, intending passengers should have the bag filled in London, and then wrapped up in a shawl or in flannel vests or petticoats or other non-conductors of heat that may happen to be in their portmanteaus or carpet bags. In warm weather it may be advisable to have the ice-bag packed in a box containing sawdust. For passages of several hours' duration it may be necessary to carry a supply of ice, properly packed by the ice merchant, and an ice-breaker for the purpose of reducing it to fragments. From two to three pounds of ice for every two hours the passage lasts is the quantity required for an adult. People whose liability to sea-sickness is not very great will usually find that the malady may be wholly prevented by the application of the ice-bag as soon as they begin to feel squalmish. In all cases the ice-bag should be placed in immediate contact with the skin, and it is recommended that it should not be brought higher up the spine than the middle of the back of the neck. When the patient is lying down, the ice-bag has a tendency to slip upwards to the back of the head, but this is easily remedied. People who are unusually prone to suffer from sea-sickness should apply the bag immediately on going on board, or before the vessel starts. In the case of women far advanced in pregnancy the bag should not extend as low down as the loins. As auxiliary measures, swallowing little pieces of ice, and the application of a hot-water bottle to the feet, are of importance.

When ice or the ice-bag is not at hand, an inhalation of nitrite of amyl may be employed with advantage. Three drops of the nitrite of amyl are poured on a pocket handkerchief, and held close to the nose. The inhalation must be conducted rapidly, so as to obtain the full influence of the drug. It may cause flushing of the face and a feeling of pulsation in the head, but these effects are temporary, and soon pass away. A warm and comfortable glow then takes the place of the chilly sweat which is so disagreeable in this complaint, and is usually followed in the course of half an hour or so by a pleasant slumber, from which the sufferer awakes to eat a hearty meal. Should the sickness recur, as it may do, after the lapse of twenty-four hours, the inhalation must be repeated. It is desirable that the patient should be in bed, or in the recumbent position, when under treatment, so as not to interfere with the subsequent sleep. One doctor, recording his experience, states that out of 124 cases of *bonâ fide* sea-sickness this mode of treatment proved eminently successful in 121, there being no return of the vomiting after the inhalation of the nitrite of the amyl, and the remaining three cases were unsatisfactory only in so far that they required a further dose or so of the amyl. Many chemists now keep little glass capsules, each containing three or five drops of nitrite of amyl. They may be used with advantage.

A very good remedy for sea-sickness is chloral, but whether it acts by simply benumbing the nerves of the stomach, or by reducing the susceptibility of the whole nervous system, we do not know. At all events, a passenger may take thirty grains of chloral at Dover, fall into a drowsy, half-conscious state, and find himself at Calais free from sickness. Sometimes one or two drops of pure chloroform taken in a wine-glass of water will prove efficacious. Hypodermic injections of morphia are occasionally resorted to, but their use is not justifiable until other remedies have been tried and failed.

The substance known as petroleum, mineral naphtha, or rock oil, enjoys a high reputation in the treatment of sea-sickness. It should be taken on going on board, a drop or two on a small piece of sugar, and repeated every two or three hours. A pill containing three drops of creosote is another good remedy.

Lamplough's effervescing "Pyretic Saline" often proves of the greatest service in the treatment of obstinate cases of sea-sickness. The dose is a tea-spoonful in half a tumbler of cold water. It may be obtained from any chemist.

Ipecacuanha wine, in drop doses, which proves so successful in the treatment of many kinds of vomiting, would probably succeed in sea-sickness, although we are not acquainted with the records of any cases in which it has been tried.

A surgeon on board one of the vessels of the White Star line recently informed us that in obstinate cases he had often obtained relief by the use of iced dry champagne. It is essential, he says, that the wine should be dry, for sweet champagne only makes matters worse.

In the Levant the daily internal use of iron is a very common cure for sea-sickness. Sailors, when suffering from this complaint, obtain their iron in a very primitive manner, for they scrape off a portion of the rust adhering to the anchor and anchor-chain, and then swallow it in a little water.

SHAKING PALSY, OR PARALYSIS AGITANS.

This is an affection not uncommonly met with in old people. It is characterised by the occurrence of involuntary tremulous or shaking movements of the limbs, head, or body. It occurs almost exclusively in men, and the large majority of cases are met with above the age of fifty. In some instances it appears to be hereditary; for we had recently under our care a patient with this complaint whose father had suffered in the same way for many years. It is said that it may be caused by violent muscular exertion, by injuries or wounds, by excessive terror or mental emotions, but the evidence on this point is far from conclusive. It is supposed that in some cases rheumatism has laid the foundation for this lamentable disease.

The onset of the complaint is generally insidious, and the progress is so slow that the patient has often a difficulty in saying exactly when it began. A feeling of weakness or a disposition to tremble fastens upon some particular part, most commonly one hand or arm. The tremors are aggravated by mental emotion or agitation, whilst rest and quiet diminish or stop them. Usually they may be controlled by grasping a weight, or by a slowly and deliberately-performed voluntary act. These tremors, at first slight and occasional, gradually increase, and after a time extend to other parts. The patient experiences considerable difficulty in performing any act requiring manipulative dexterity. He becomes unable to read or write or hold a book, and often has considerable difficulty in dressing and feeding himself. He finds it almost impossible to drink in the ordinary way, the fluid being spilled and the glass or cup knocked to and fro against the mouth. Patients deprived of assistance have sometimes been obliged to lap water like a dog. It is very painful to witness the struggles of the sufferer in his efforts to effect some desired movement; the more he tries the worse he becomes. He is even obliged to walk with circumspection, and the legs are not raised to the height nor with the promptness the will directs, so that much attention is requisite to prevent falling. Sometimes a difficulty is experienced in preserving the upright posture when sitting or standing, but especially in walking there is a propensity to lean forwards, which gradually increases, and the patient is in constant danger of falling on his face. The forward tendency may become invincible. Forced to walk on the toes and fore part of the feet, while the body is thrown forwards, the patient is irresistibly impelled to take short quick steps, and to adopt unwillingly a running pace—in fact, he is obliged to run to keep up with himself. Sometimes, in advanced cases, an attendant has to step backwards in front of him, with his hands placed on his shoulders, in order to maintain his equilibrium. This forward tendency is not observed in every instance, and the tremors often occur alone. Occasionally, though rarely, there is a disturbance of balance in the opposite direction, and the patient is impelled to run backwards. We are told of a man who had to be balanced to and fro before starting, and who, if arrested in his forward movement, immediately began to hurry backwards, and could not stop himself.

Our description refers chiefly to severe and advanced cases. In many instances the complaint is so mild and its progress so slow, that were it not for the inconvenience arising from the unsteadiness of the hand in writing and other manipulations the

patient would not consider that he was suffering from any complaint at all. Sometimes the affection is confined to the muscles of the neck, and then the head is always nodding or shaking from side to side. In these slowly progressive cases the disease has no tendency to shorten life, and its duration may be indefinitely prolonged. An inmate of the Chelsea Hospital who was first affected at the age of sixty lived to be 107.

When fully established it is an obstinate complaint, and not at all amenable to treatment. The mere violence of the movement, however, is no evidence of incurability, for slight tremors are sometimes the most obstinate. Benefit is often experienced from the administration of phosphorus (Pr. 53 or 54), or arsenic (Pr. 40). The general health may be improved by cod-liver oil, or extract of malt. The application of galvanism by a medical man often does good.

SHINGLES. (*See SKIN DISEASES.*)

SLEEP—SLEEPLESSNESS.

For the maintenance of an organ in a condition of health it is necessary that it should be allowed intervals of rest, during which the processes of nutrition and repair may go on undisturbed. Even those actions which are most continuous, such, for example, as respiration and the pulsation of the heart, have distinct periods of suspension. Thus after each beat of the heart there is an interval, during which the organ is at rest. This amounts to one-fourth of the time requisite to make one pulsation and begin another. During an aggregate of six hours out of the twenty-four the heart is not working, and is in a state of repose. It takes short periods of rest, like a sailor, but it has its due allowance of sleep for all that. And this, too, is equally true of breathing. If we divide the respiratory act into three equal parts, one will be occupied in inspiration, one in expiration, and the other by a period of quiescence. During eight hours out of the twenty-four the chest and lungs are inactive. And so with the other organs of the body, each has its time for work and its time for rest. And of our muscles, none, even during our most untiring waking movements, are kept in continued action. We may be "on the move" all day, but for all that we are not moving every part of the body at the same moment, or we should soon be exhausted, and our muscles would refuse to perform their office.

But for the brain there is no real rest, except during sleep. So long as the individual is awake he is always thinking, the brain is always active, always "on the work," and there is no such thing as rest. No man yet ever succeeded in thinking of nothing at all; you cannot do it if you try. The substance of the brain is consumed by every thought, by every action of the will, by every sound that is heard, by every object that is seen, by every substance that is touched, and by every painful or pleasurable sensation, so that each instant of our lives witnesses the decay of some portion of its tissue, and the formation of another to take its place. During our waking moments the formation of the new substance does not go on with the same rapidity as the decay of the old; repair cannot keep pace with the process of destruction—hence the necessity for sleep. The state of repose attendant upon this condition allows the balance to be restored, and hence the feeling of freshness

which attends, or should attend, our waking moments. The more active the mind the greater the necessity for sleep, just as with a steamer, the greater the number of revolutions its engines make the more imperative is the demand for fuel.

Most people require seven or eight hours' sleep out of the twenty-four, although many get on very well with only five or six. Students working for examinations often restrict themselves to four or five hours nightly for a few weeks, and then try and make up for it by passing nine or ten hours in bed for three or four weeks afterwards. No man can play such tricks with his health with impunity.

The necessity for sleep is sometimes so great that no effort of the will can resist it. Sentinels have been known to sleep on their posts, even in the face of the most imminent danger. Active bodily exertion will not always suffice to ward off sleep. Many men have been known to sleep on horseback during night marches. In some of our long walking matches against time, the pedestrian has been known to sleep at night, still keeping up his weary round. During the battle of the Nile many of the boys engaged in handing ammunition fell asleep, notwithstanding the noise and confusion of the action, and the fear of punishment. It is said, too, that on the retreat to Corunna whole battalions of infantry slept while in rapid march.

"Blessings," exclaimed Sancho, "on him that first invented sleep! It wraps a man all round like a cloak." The deprivation of sleep is one of the greatest punishments that can be inflicted. The following story, quoted on good authority, will serve to illustrate this fact:—"A Chinese merchant had been convicted of murdering his wife, and was sentenced to die by being deprived of sleep. This painful mode of death was carried into effect under the following circumstances: The condemned was placed in prison under the care of three of the police guard, who relieved each other every alternate hour, and who prevented the prisoner falling asleep night or day. He thus lived nineteen days without enjoying any sleep. At the commencement of the eighth day his sufferings were so intense that he implored the authorities to grant him the blessed opportunity of being strangled, guillotined, burned to death, drowned, garrotted, shot, quartered, blown up with gunpowder, or put to death in any conceivable way their humanity or ferocity could invent." This will give some idea of the horrors of death from want of sleep. Damiens, who attempted the assassination of Louis XV. of France, and who was sentenced to be torn to pieces by four horses, was for an hour and a half before his execution subjected to the most infamous tortures, with red-hot pincers, melted lead, burning sulphur, boiled oil, and other diabolical contrivances, yet he slept on the rack, and it was only by continually changing the mode of torture, so as to give a new sensation, that he was kept awake. He complained just before his death that the deprivation of sleep was the greatest of all his torments. Amongst the fearful iniquities of the "ordeal" and "torture," the system of Mersiglio was highly commended. This consisted in keeping the victim from sleep for forty hours; upon which practice it has been cynically remarked that a hundred martyrs exposed to it would become confessors to a man.

The immediate cause of sleep is believed to be a diminished supply of blood to the brain, and this will serve to explain the influence of many conditions in the production of sleep. Thus, for example, it has been shown that animals often fall

sound asleep on losing a large quantity of blood, a proportion being, of course, drawn from the brain. Most people have noticed the influence of heat—that of the fire, for example—in causing drowsiness, and eventually sleep, if sufficiently prolonged. During the prevalence of high temperatures the blood flows in increased proportion to the surface of the body, and consequently the quantity in the brain is diminished. A slight degree of cold excites wakefulness at first; but if the constitution be strong, the effect is to favour the production of sleep. This it does by reason of the determination of blood to the surface of the body which moderate cold induces in the vigorous. The ruddy complexion and the warm hands and feet produced in such persons under the action of this influence are well known. If, however, the cold be very intense, or the reduction of temperature sudden, the system even of the strongest fails to resist it, and then a very different series of phenomena result. Stupor, not sleep, is the consequence. The blood-vessels of the surface contract, and the blood accumulates in the internal organs, the brain among them. Many instances are on record showing the influence of extreme cold in the production of sleep, or rather stupor. One of the most striking is given in Captain Cook's "Voyages," in regard to an excursion undertaken by Sir Joseph Banks, Dr. Solander, and nine others, over the hills of Terra del Fuego. Dr. Solander, knowing from his experience in Northern Europe that the stupor produced by severe cold would terminate in death unless resisted, urged his companions to keep in motion when they began to feel drowsy. "Whoever *sits down*," said he, "*will sleep*, and whoever *sleeps will wake no more*." Thus, at once admonished and alarmed, they set forward; but they had not gone far before the cold became suddenly so intense as to produce the effects that had been most dreaded. Dr. Solander was the *first* who found the inclination against which he had warned others invincible, and he insisted on being suffered to lie down. Mr. Banks (as he was then) entreated and remonstrated with him in vain; down he lay upon the ground, although it was covered with snow, and it was with much difficulty that his friends kept him from sleeping. Richmond also, one of the black servants, began to linger in the same manner; when he was told that if he did not go on he would in a short time be frozen to death, his answer was that he desired nothing but to lie down and die. The Doctor said he was willing to go on, but that he must first take some sleep; although but a short time before he had told the company that to sleep was to perish. It was found impossible to carry them, and there being no remedy they were both at length suffered to lie down, being partly supported by some bushes, and in a few minutes they fell into a profound sleep. Soon after some of the people who had been sent forward returned with the welcome news that a fire was kindled about a quarter of a mile ahead. Mr. Banks then endeavoured to wake Dr. Solander, and happily succeeded; but though he had not slept five minutes, he had almost lost the use of his limbs, and the flesh was so shrunk that his shoes fell from his feet. He consented to go forward with such assistance as could be given him, but no attempts to relieve the servant were successful. He, together with another black left with him, died.

Another potent cause of sleep, and one of which we habitually avail ourselves, is diminution of attention. Shutting the eyes so as to exclude the light, getting beyond the sound of noises, refraining from the employment of the other senses, and

avoiding thought as much as possible, will do much to induce sleep. When we isolate ourselves from the external world, we lessen the amount of blood supplied to the brain, and in this way sleep results. It is not, however, always easy to do this. The nervous system is excited, ideas follow each other in rapid succession, and we lie awake for hours, vainly longing for happy oblivion. The more the will is brought to bear upon the subject, the more it rebels, and the less willing it appears to be forced into a state of quietude. In this case something may be done by endeavouring to tire out the brain. Many ways of accomplishing this object have been proposed and are employed by different people. The great point about them all is that they are tiring and monotonous. Counting a hundred many times, listening to the ticking of a clock, working sums, and thinking of some disagreeable or tiresome subject have all their advocates. Sometimes sleep may be induced by placing a brass pan—a sponge-bath will answer admirably—in such a position that water may fall into it drop by drop. Southey's experience, as related in "The Doctor," is well worth quoting, more particularly as he indicates several methods which may in some cases prove efficacious. "I put my arms out of bed," he says, "I turned the pillow for the sake of applying a cold surface to my cheek. I stretched my feet into the cold corner; I listened to the river and to the ticking of my watch; I thought of all sleepy sounds, and of all soporific things—the flow of water, the humming of bees, the motion of a boat, the waving of a field of corn, the nodding of a mandarin's head on the chimney-piece, a horse in a mill, the opera, Mr. Humdrum's 'Conversations,' Mr. Proser's 'Poems,' Mr. Laxative's 'Speeches,' Mr. Lengthy's 'Sermons.' I tried the device of my own childhood, and fancied that the bed rushed with me round and round. At length Morpheus reminded me of Dr. Torpedo's 'Divinity Lectures,' where the voice, the manner, the matter, even the very atmosphere and the stream of candlelight were all alike somnific; where he who, by strong effort, lifted up his head and forced open the reluctant eyes, never failed to see all around him asleep. Lettuces, cowslip wine, poppy syrup, mandragora, hop pillows, spider's-web pills, and the whole tribe of narcotics, up to the bang and the black drop would have failed; but this was irresistible, and thus, twenty years after date, I found benefit from having attended the course."

Digestion favours the production of sleep, by inducing a flow of blood to the stomach, so that the brain is left in a state of anæmia, or bloodlessness. Some people always feel sleepy after a meal, although they may have partaken of food in the strictest moderation. As a rule, persons who eat largely, and have good digestive powers, sleep a great deal, and there are many who cannot sleep at all at night unless they have partaken of a hearty supper.

Debility is almost always accompanied by a disposition to inordinate sleep. People who are out of condition nearly always feel drowsy and heavy, and disinclined for active mental exertion. The fact is, the brain is one of the first organs to feel the effects of a diminished amount of blood, or deterioration in quality, and hence in old age, or under the influence of a deficient quantity of food, or through the action of some exhausting disease, more sleep is usually taken than when the physical health is in its normal condition.

The approach of sleep is characterised by a languor which is agreeable when it can be yielded to, but which, when circumstances prevent this, is far from being pleasant. It is a delicious moment, certainly, that of being well nestled in bed, and feeling that you will soon drop gently to sleep. Many people however, and children especially, are rendered irritable and ill-tempered when they get sleepy. In the majority of cases the senses lose their activity in a certain definite organ. The sight is, of course, the first to be lost, the closure of the eyeballs interposing a physical obstruction to the entrance of light. Even when the eyelids have been removed, or from disease cannot be closed, the sight is still the first of the special senses to be abolished. Moreover, in those animals, the hare for example, which do not shut their eyes during sleep, the ability to see disappears before the action of the other senses is suspended. The taste is the next to fade, and then the smell; hearing follows, and sensation yields last of all, and is the most readily re-excited. Practically, we know that it is much easier to awake a man by shaking him than by shouting at him.

Although during sleep the operations of the senses are entirely suspended as regards the effect of ordinary impressions, the purely animal functions of the body continue in action. The heart beats, the lungs respire, the stomach digests, the skin exhales vapour, and the kidneys secrete urine. With the brain, however, the case is somewhat different, for while some parts retain the property of receiving impressions or developing ideas, others have their actions diminished, exalted, perverted, or altogether arrested. Relative to the different faculties of the mind as affected by sleep, great variations are observed. It has been supposed that several of them are exalted above the standard attained during wakefulness. Many remarkable stories are related, showing the high degree of activity possessed by the mind during sleep. Thus, it is related of Tartini, a celebrated musician of the eighteenth century, that one night he dreamt that he had made a compact with the devil, and bound him to his service. In order to ascertain the musical abilities of his subordinate, he gave him his violin, and commanded him to play a solo. The devil did so, and performed so admirably that Tartini awoke with the excitement produced, and seizing his violin endeavoured to repeat the enchanting air. Although he was unable to do this with entire success, his efforts were so far effectual that he composed one of the most admired of his pieces, which, in recognition of its source, he called the "devil's sonata." A somewhat similar anecdote has been preserved in a family of rank in Scotland, the descendants of a distinguished lawyer of the last century. This eminent person had been consulted respecting a case of great importance and much difficulty, and he had been studying it with intense anxiety and attention. After several days had been occupied in this manner, he was observed by his wife to rise from his bed in the night and go to a writing-desk which stood in the bedroom. He then sat down and wrote a long letter, which he put carefully by in the desk, and returned to bed. The following morning he told his wife that he had dreamed a most interesting dream; that he had dreamt of delivering a clear and luminous opinion respecting a case which had perplexed him, and that he would give anything to recover the train of thought which had passed before him in his dream. She then directed him to the writing-desk, where he found the opinion clearly and fully written out, and it

afterwards proved to be perfectly correct. The weak point in this case is that there is no evidence to show that the gentleman in question was really asleep when he wrote his opinion. Circumstances that actually occur during the night are often mistaken for dreams. A gentleman on getting up one morning fancied that he had dreamed of a fire occurring in the vicinity of his house ; he mentioned the circumstance to his wife, and to his surprise she informed him that the supposed dream was a reality, and that he had got up to the window, looked at the fire, talked with her about it, and that in fact he was at the time fully awake.

It sometimes happens that circumstances long forgotten are recalled in our dreams. A gentleman who had learnt Greek in his youth, but had subsequently completely forgotten it, could in his dreams read the Greek works he had been accustomed to use at college, and had a most vivid impression of fully understanding them. It is related, too, of the Countess de Laval, a woman of perfect veracity and good sense, that when ill she spoke during sleep a language which no one could understand. At last an old nurse detected the dialect of Brittany ; her mistress had spent her childhood in that province, but had lost all recollection of the Breton tongue, and could not understand a word of what she had said in her dreams when it was repeated to her. Her utterances applied, moreover, exclusively to the experiences of childhood, and were infantile in structure. Nothing can be more remarkable than those cases in which a dream has served to reveal the hiding-place of some long-lost document or family record. In many instances the circumstances are well authenticated, and there can be no doubt as to their correctness. The facts have been known and then completely forgotten, and have finally been recalled to memory during sleep, or possibly at the moment of awaking.

Most people dream more or less, but, curiously enough, some never do so under any circumstances, or rather, perhaps we should say that on awaking they have no recollection of having done so. Even the ancient writers were aware of this fact, and Pliny refers to men who never dreamed. Plutarch alludes to the case of Cleon, who, although he lived to an advanced age, had never dreamed. Yet, in spite of this, the great majority of writers hold the view that the brain is never at rest. Sir William Hamilton caused himself to be aroused from sleep at intervals throughout the night, and invariably found that he was disturbed from a dream, the particulars of which he could always distinctly recollect. It is probable that we originate nothing in our dreams. We may imagine things which never really existed, or of which we have heard or read, but the images we make of them are either composed of elements familiar to us, or are based upon ideal representations which we have formed in our waking moments. For example, before the discovery of America, no European ever dreamt of American Indians, simply because nothing existed within his experience which could have afforded any idea of the appearance of such people. Columbus and his followers may have dreamt of the continent of which they were in search and of its inhabitants, but the images formed of the latter must necessarily have resembled other beings they had seen or had heard described. After the discovery, however, every one dreamt of Indians as a matter of course, just as we do now even, although we may have no personal experience of the denizens of the far West. Dreams always have some foundation, and in the great

majority of cases are excited by the events of the previous day. It is related of a tyrant of old that one of his courtiers once related to him a dream that he had had, in which he had assassinated his master. "You could not," exclaimed the tyrant, "have dreamed this without having previously thought of it," and then ordered his immediate execution. Sometimes dreams are the result of the external conditions under which the sleeper is placed. Thus many people whilst suffering the pangs of hunger have dreamt of gorgeous banquets and of tables loaded with the most appetising viands. We are told of an officer in the army whose companions were in the habit of amusing themselves at his expense. They had discovered accidentally that they could produce in him any kind of dream simply by whispering in his ear. Once they conducted him through the whole process of a quarrel which ended in a duel, and when the parties were supposed to have met a pistol was put in his hand, which he fired, and was awakened by the report. On another occasion they made him, when asleep, believe that he was in an engagement, when he exhibited great fear and showed a decided disposition to run away. Against this they remonstrated, but at the same time increased his fears by imitating the groans of the wounded and dying. When he asked, as he often did, who was hit, they named his particular friends. At last they told him that the man next to him in his company had fallen, when he instantly sprang from his bed, rushed out of the tent, and was aroused from his dream, and rescued from his supposed danger, by falling over the tent-cords.

Sleeplessness is very frequently the accompaniment of some disease or disorder, and is to be regarded as one of the symptoms characterising it, which will disappear under treatment directed to the original malady. But not unfrequently want of sleep occurs as a purely functional disorder. When night after night a person lies awake for hours, either failing to sleep, or getting it only by fits and starts, serious results are sure to follow. Inability to sleep is one of the most constant precursors and accompaniments of brain exhaustion and general decay, and when long persistent may result in insanity. It is probable that no one cause is so productive of mental degeneration as constant wakefulness, for not only is the brain prevented from obtaining rest, but it is kept in a state of continual tension which, if not relieved, must sooner or later lay the foundation of grave organic disease.

A very common cause of wakefulness is over mental exertion. An author, for example, strains every nerve to finish his book by a certain date, sitting up night after night, disregarding the calls of nature and the dictates of common sense. At last his task is completed, and then when he tries to rest he finds he cannot sleep. It may be long before the health recovers from the excessive strain it has undergone. It is a matter of every-day experience that the body and mind may become so weary that it is impossible to sleep—over-tired as we call it. Sleeplessness sometimes arises from derangement of the liver. When this is the case the patient is often heavy and drowsy after a full meal, and he may fall asleep at once on retiring to rest, but after one, two, three, or four hours he awakes, and then he either lies awake for hours or is constantly falling asleep, dreaming or having the nightmare and awaking—four or five times, or even oftener, in the course of an hour—until the morning comes, when he drops into a quiet sleep of an hour or more, and gets up

tired and irritable. This particular form of sleeplessness is often induced by certain articles of diet, or by some injudicious combination of them. An indiscretion that will excite headache, giddiness, or palpitation in one, causes sleeplessness in another. In these cases the rational treatment is obviously that of biliousness. A blue-pill or two will often do more to effect a cure than a whole arsenal of opiates or soporifics.

Very often sleeplessness arises from the stomach, rather than from the liver. This may be the case when there are no other obvious symptoms of indigestion; the appetite may be good, and there may be no pain, flatulence, or other discomfort after meals. This form of sleeplessness has long been recognised. Thus an old writer says, "Persons who labour under a weakness of the stomach, as I have for a great number of years past, know that certain foods, without their being conscious of it, prevent sleeping. So I have been awakened a hundred times at two o'clock in the morning, when I did not feel any particular impression in the stomach, but I knew that I had been awaked by an irregular operation of that organ, and I have then recollected what I took at dinner, which was the cause of it." In these forms of sleeplessness harm is often done by the administration of opiates. Very often relief may be obtained by careful attention to diet, and particularly by strict moderation in the use of wine or beer. In many cases a dose of carbonate of potash or carbonate of soda on going to bed, or on first awaking in the morning, is of service. Many people who suffer from this form of sleeplessness never do so well as after a dose of calomel, or a blue-pill.

There are many other circumstances which have a tendency to produce sleeplessness. Smoking strong tobacco late at night, especially after errors of diet, is by no means an unfrequent cause. Strong odours, as of flowers, perfumes, or even embrocations, may act in the same way. Excessive exercise as in dancing, mental excitement, as in late entertainments, in amusements, or in music, may be mentioned. Care, trouble, sorrow, mental anxiety, are all enemies to sleep. Children are not unfrequently prevented from sleeping by bad dreams, too often excited by the tales or threats of ignorant or injudicious nurses. The practice of taking "forty winks" after dinner, though not in itself objectionable, if the authorised number be not exceeded by undue indulgence, may forestall the night's rest and make it difficult to get off to sleep. Often enough the most relishing snatch of slumber out of bed is the one which a tired person takes before he retires for the night, while lingering in his sitting-room. The consciousness of being very sleepy, and of having the power to go to bed immediately, gives great zest to the unwillingness to move. Some people, it is to be feared, go to bed with a fixed idea that they cannot sleep, and they dwell on that idea, and consequently do not sleep. And, lastly, women of a nervous, excitable temperament are often annoyed by an inability to obtain sound repose during pregnancy, or they may suffer from complete insomnia after delivery.

We will now consider the best mode of curing sleeplessness, and we wish to state, in the first place, that the practice of resorting to a narcotic on every trivial occasion is as bad as bad can be. There is a great deal to be done before we can even think of taking medicine. To begin with, it is necessary to try and find out

the exciting cause of the wakefulness, and then to remove it if possible. If a man is over-working himself it is of not the slightest use giving him drugs to make him sleep, unless he will consent to go under easy sail for a time. That would be the abuse of medicine, not its use. Much may be done by measures which tend to improve the general health, and these are chiefly of a hygienic character. Is the room in which the patient sleeps all that it should be? Is it large and airy and, at all events, moderately well ventilated? If not, this must be remedied without delay. Has the patient a fair allowance of bed-clothes? Possibly he would be benefited by having a fire in his room at night, or a hot-water bottle to his feet. Is he regular in his habits? He should go to bed every night at the same hour, and get up at the same time in the morning. A man who is irregular, and goes to bed one night at ten, and the next not till two or three in the morning, cannot expect to sleep well, and he certainly does not deserve to. Many people pass far too many hours in bed—seven or eight is enough for any man. We know people who are never satisfied, and are always complaining because they cannot sleep twelve hours at a stretch. To be able to do so would be no indication of health, but rather the contrary. Many a man has been cured of his inability to sleep by taking a warm bath the last thing before going to bed. Often enough there is some error in diet which requires to be looked to. Many people find they cannot sleep if they go to bed on an empty stomach. With many, a hearty supper of plainly-cooked and nutritious food rather favours sleep than otherwise. Of course, indigestible substances, such as cheese or pastry, should be avoided. A glass of good bottled stout is by no means a bad provocative of sleep. A plain biscuit after lying awake for some time will often bring relief. Some people sleep best when propped up in bed, and others when lying quite flat on their backs. A low pillow, a hard pillow, or a hop pillow may conduce to sleep. If the air of the bedroom be dry, and there is a sense of stifling or stuffiness, it is a good plan to have the floor freely sprinkled with water containing a little Condyl's fluid; or if warmth as well as moisture be desired, the steam may be allowed to escape into the room from a kettle on the hob.

Walking, riding, or driving in the open air, change of society, of scene, of air (provided only that it be pure and bracing) may prove remedial. A good walk two hours before bed-time is beneficial in many cases. Reading exciting works of fiction late in the evening is to be prohibited, and everything possible should be done to prevent the normal functions of the brain from being over-excited during the day. Sometimes advantage is derived from getting rid of curtains and bed-hangings. The practice of keeping the bedroom window open all night is a good one. We are told that Bacon used to indulge in a posset of strong ale to subdue the activity of his brain before going to bed; and in imitation of his practice we sometimes recommend in cases of debility that a tumblerful of port wine negus, or of mulled claret, or of hot elder wine, or of white wine whey, should be taken the last thing. In other instances, where the skin is hot and dry, a glass of cold water may be useful. Should the bowels be habitually constipated, this must be seen to (*see CONSTIPATION*). If there be headache, a rag dipped in cold water and applied to the forehead may give relief. Attempts may be made to get into "the land of Nod" while comfortably seated in an easy chair.

We have already had occasion to refer to the influence of monotonous sounds in producing sleep. Soothing sounds will lull adults as well as children. Brushing the hair, friction of the skin, rubbing the palms of the hands or the backs of the arms, will have a quieting influence on some persons. In exceptional cases sleep may sometimes be conciliated by the monotonous biddings of mesmerism, when drugs might fail to procure it, and such sleep may become in certain diseases a mode and an instrument of cure. What has been called "hypnotism" may occasionally have its uses. The following extract from a paper on the subject will explain the *modus operandi*.—"My usual mode of inducing sleep," says the writer, "is to hold any small bright object about ten or twelve inches above the middle of the forehead, so as to require a slight exertion of the attention to enable the patient to maintain a steady, fixed gaze on the object; the subject being either comfortably seated or standing, stillness being enjoined, and the patient requested to engage his attention, as much as possible, on the single act of looking at the object, and yield to the tendency to sleep which will steal over him during this apparently simple process. I generally use my lancet-case, held between the thumb and first two fingers of the left hand; but any other small bright object will answer the purpose. In the course of about three or four minutes, if the eyelids do not close of themselves, the first two fingers of the right hand, extended and a little separated, may be quickly, or with a tremulous motion, carried towards the eyes, so as to cause the patient involuntarily to close the eyelids, which, if he is highly susceptible, will either remain rigidly closed or assume a vibratory motion—the eyes being turned up, with, in the latter case, a little of the white of the eye visible through the partially-closed eyelids. If the patient is not highly susceptible, he will open his eyes, in which case request him to gaze at the object, &c., as at first; and if they do not remain closed after a second time, desire him to allow them to remain shut after you have closed them; and then endeavour to fix his attention on muscular effort, by elevating the arms if standing, or both arms and legs if seated, which must be done quietly, as if you wished to suggest the idea of muscular action without breaking the abstraction, or concentrative state of mind, the induction of which is the real origin and essence of all that follows."

One of the best remedies for sleeplessness is bromide of potassium. It has been found of especial use in obviating that sleeplessness and wandering at night not unfrequently occurring during convalescence from acute diseases. In sleeplessness from other causes, as worry, over-work, grief, or indigestion, it may be employed with every expectation of success. It is especially indicated if besides sleeplessness the patient, although of abstemious habit, suffers from delirium resembling that of delirium tremens. In the sleeplessness of delirium tremens itself the bromide is of conspicuous benefit. It is to be given in a single dose of twenty grains at bed-time or three table-spoonfuls of the mixture (Pr. 31).

Chloral is another valuable remedy for the relief of sleeplessness. It should be given shortly before bed-time, and the patient should avoid excitement, and keep quite quiet, or it will produce restlessness instead of sleep. It is very efficacious in subduing the sleeplessness of old people, and the wakefulness induced by excessive mental fatigue. The dose is a tea-spoonful of the syrup of chloral. There is not the slightest

objection to giving it in combination with bromide of potassium, and for an adult a very good combination is two table-spoonfuls of the bromide of potassium mixture (Pr. 31) with a tea-spoonful of syrup of chloral.

The sedative draught (Pr. 37) may be used.

As we all know, opium is a remedy frequently employed for the production of sleep, but it is a drug that must be employed with the greatest caution. Many a man has entered upon his last long sleep through the injudicious administration of a dose of laudanum. Never give a sleeping-draught containing opium to any one with extensive lung disease or with disease of the kidneys. Chronic sleeplessness, independent of any notable disease, should not be treated with opium if it is possible to avoid it. As a rule, bromide of potassium and chloral are much safer and better agents than laudanum. Still, when sleeplessness is caused by severe pain, or our other remedies have failed, we may be glad to resort to an opiate. When opium is given to produce sleep, attention must be paid to the time of its administration. It should be given at the usual time for sleep, or when the patient feels inclined to dose, so that it may aid Nature, herself striving to induce the same result; small doses are then as effectual as larger given at a less seasonable time. As a rule, a dose of opium requires about two hours to produce its effects. It is conveniently given in the form of laudanum, twenty drops in a wine-glassful of water. Sometimes a morphia suppository succeeds better than when the drug is given by mouth. These suppositories are little cones of wax about half an inch long, containing a dose of morphia. When pushed up the back passage they dissolve with the heat of the body, and the effects of the drug are produced. The morphia suppository is a pharmacopœial preparation, and they may be obtained from any chemist. Only one is to be used at a time. The hypodermic injection of morphia must not be forgotten, although it is not a mode of treatment that we are justified in resorting to without absolute necessity.

Chlorodyne may often be given with advantage.

Coffee is an admirable remedy for some forms of sleeplessness. A spoonful or two of very strong coffee without sugar or milk will speedily subdue the sleeplessness arising from agitation of mind or body, or from extreme anxiety or mental labour. The wakefulness of children and of old people is especially under its control.

A small tea-spoonful of spirits of ether or spirits of chloroform, in a wine-glassful of water at bed-time, will often induce sleep. The peevish sleeplessness of children is often removed by tea-spoonful doses of infusion of chamomile. When restlessness depends on indigestion, errors of diet, excesses of any kind, or on constipation, nux vomica may do good. Five drops may be taken in a wine-glassful of water three or four times a day.

SMALL-POX.

Small-pox, technically known as Variola, is a most infectious disease, and the contagion can be conveyed to considerable distances. The poison clings tenaciously to clothes and other articles, especially to those of rough texture, and retains its vitality for a long period, so that it is unwise to go into a room that has been occupied by a small-pox patient until it has been thoroughly disinfected.

Small-pox may occur at any age. Its period of incubation is twelve days so that after contact with a small-pox patient one is not positively safe for that time.

It usually commences suddenly with chills, or rigors, followed by all the symptoms of severe fever. The temperature may rise to 104° or more before the eruption appears. An early symptom is pain in the back, so that sometimes the patient thinks he has lumbago. Not unfrequently the pains are general, and always there is a considerable degree of prostration. The eruption appears as a rule on the third or fourth day, and is almost invariably first noticed about the forehead. It usually lasts about eight days. The temperature falls on the appearance of the rash, but rises again as the spots mature. Occasionally a red rash precedes the true small-pox eruption, giving rise to the idea of scarlatina. We know of no cure for small-pox, and the disease must be allowed to run its course. Vaccination, so valuable as a preventive, is of no avail when once the symptoms have actually appeared. What vaccination will do is this:—If an unvaccinated person be exposed to small-pox on Monday, he will be safe if vaccinated on or before the following Wednesday; if it be postponed till the Thursday, the small-pox rash will appear, but will be modified; if delayed till Friday, it will be useless. Re-vaccination will have effect two days later than will vaccination that is performed for the first time. As soon as small-pox breaks out, the doctor must be sent for. The patient must be isolated, and only those allowed to see him who have been well vaccinated. He must be kept in bed, which should be placed in an airy room, well ventilated, and of a uniform and medium temperature—about 60° Fahr. His diet should at first consist of milk, beef-tea, mutton broth, gruel, rice water, white of egg and water flavoured with lemon-juice, tea and toast, bread and milk, &c. Later on, Brand's Essence of Beef will be found useful. When thirsty he may have iced milk, toast and water, lemon and water, lemonade, soda-water, or imperial drink. Great care should be taken to keep him clean, and the hands and face should be frequently sponged with tepid water, especial attention being paid to the eyes. If the throat is sore, a little black-currant jelly will give relief. Should the bowels be confined, a simple aperient will be necessary.

To prevent pitting, wait till the spots have discharged and the discharge has begun to dry, then put on some of the best olive oil, or a mixture of one-third glycerine and two-thirds rose-water; this may be applied once or twice a day until the scabs begin to loosen. Cold cream and a mixture of olive oil and lime-water are also good applications. Sometimes the pits are hardly seen at first, but become more apparent afterwards. The articles on Chicken Pox (p. 4) and Vaccination (p. 63) may be consulted.

SOMNAMBULISM AND SLEEP-WALKING.

The phenomena exhibited by a person in the condition of somnambulism are so wonderful that they have from the earliest times excited the superstitious feelings of the ignorant, and claimed the most serious attention of the learned. To see an individual apparently asleep, and yet capable of performing the most intricate action without the aid of the senses, is so diametrically opposed to our ordinary experience

as to excite feelings of astonishment almost amounting to awe. That somnambulism is not merely a partial awakening, is shown by the difficulty always experienced in arousing the individual, and by the bewilderment and slow return of consciousness by which it is followed. Moreover, decided somnambulists are entirely ignorant of all that has occurred during their strange sleep, whereas dreams during a partial waking are always remembered, more or less.

Somnambulism is to some extent hereditary, though not markedly so, and it is most likely to occur in families in which there is a proclivity to affections of the nervous system. Young people are more subject to it than those of mature age; in fact, there are few children who do not exhibit at some time or other manifestations of the condition in question, such as muttering and talking in their sleep, laughing, crying, or getting out of bed. The sexes are equally subject to it, although in adult life it more rarely attacks men than women. The immediate cause of an access is commonly some indiscretion in diet, as, for example, a late or unusually heavy supper. Mental emotion, excessive intellectual exertion, violent grief, and other similar disturbing causes, are not unfrequently assigned as exciters of an outbreak in those in whom they are of occasional occurrence. Somnambulism is a serious complaint, not only from the awkward and even dangerous positions in which it places the patient when deprived of his senses, but also for the constant and wearying anxiety which it occasions his friends. How frequently we see in the papers the heading "Death of a Somnambulist." At the same time, it is by no means inconsistent with a fair condition of general health, and it is not uncommon amongst boys and girls at school, who, bodily and mentally, are quite equal to their companions.

It is really marvellous what strange acts are occasionally performed during a condition of somnambulism. We are told, for instance, of a young ecclesiastic who during sleep frequently wrote sermons, and even composed music. The music was written with great exactitude. A cane served him for a ruler—the clef, the flats, and the sharps were all in their right places. All the notes were first made as circles, and then those requiring it were blackened with ink. The words were written below. One night, in the middle of winter, this young man during the somnambulist condition imagined that when walking on the bank of a river he saw a child fall in. The severity of the weather did not prevent him from determining to save it. He threw himself on the bed in the posture of a man swimming, went through all the motions, and after becoming well fatigued with the severity of the exercise, felt a bundle of the bed-clothes, which he took to be the drowning child. He seized it with one hand, while he continued to swim with the other, in order to gain the bank of the imaginary river. Finally, he placed the bundle in a place which he evidently considered to be dry land, and rose, shivering, with his teeth chattering as though he had emerged from icy water. He remarked to those present that he was frozen, that he would die of cold, and that his blood was like ice. He then asked for a glass of brandy, in order to restore his vitality, but there being none at hand, a glass of water was given him instead. He, however, detected the difference, and asked peremptorily for brandy, calling attention to the great danger he incurred from the cold. Some brandy was finally obtained. He drank it with

much satisfaction, and remarked that he felt much better. Nevertheless he did not awake, and returning to bed, slept tranquilly the rest of the night.

Another case is recorded of a young man, a servant, who rose every night in his sleep, descended to the cellar, drew some wine from a cask, and drank it. Frequently he went out into the streets, and sometimes even wandered into the country.

A gentleman of very nervous temperament on one occasion dreamt that his place of business was on fire. He got up in his sleep, dressed himself, and walked a distance of over a mile to his office. He was aroused by being stopped by the private watchman, who was at first under the impression that he had caught a burglar.

In relation to the activity of the senses during somnambulism there is great diversity of opinion among those who have studied the affection. This is doubtless due to the fact that somnambulists differ as regards the use they make of their senses, some availing themselves of the aid they can derive from these sources, whilst others do not appear to employ them at all. Let us take an example or two. One night a student was found, in the somnambulant condition, translating a passage from Italian into French, and looking out the words in the dictionary. Now, in this case, one would suppose that he was using the sense of sight, and yet undoubtedly sleep-walkers do wonderful things without the aid of their eyes, and in many instances they are known to have acted as though they saw in a room which was perfectly dark. Thus a lady during her sleep was seen by her husband to go into a dark closet adjoining their bedroom, open a trunk, and begin to arrange the contents. It contained clothing of various kinds, which had been put into it the day before without being sorted. She classified all the articles, such as stockings, handkerchiefs, shirts, &c., without making a single mistake, and without the possibility of being assisted by light sufficient for ordinary eyesight. Another case is recorded of a young lady who was accustomed to rise from her bed in a state of somnambulism, and to write in complete darkness. A remarkable feature was that if the least light, even that of the moon, entered the room, she was unable to write. She could do so only in the most perfect obscurity.

It has been maintained that somnambulism is a condition closely allied to reverie or absence of mind. When we are strongly pre-occupied with any subject, the objects around us make no impression on our senses or on our mind. Archimedes, while meditating on a discovery, was an entire stranger to all that was going on around him. On one occasion whilst so engaged, Syracuse was taken by the enemy, but he was not diverted from his thought either by the chant of victory of the conqueror, or by the cries and groans of the wounded and dying. A person intently engaged in reading will often answer questions without suffering his train of thought to be interrupted. When he has ceased his study, he is surprised when told that he has been conversing. When we are walking in the street and thinking of some engrossing circumstance, we turn the right corners, and find ourselves where we intended to go without being able to recall any events connected with the act of getting there. During a state of reverie the mind pursues a train of reasoning often of the most fanciful character, but still so abstract and intense, that though actions may be performed by the body, they have no relation with the current of thought,

but are essentially automatic. Thus a person in this condition will answer questions, obey commands involving a good deal of muscular exercise, and perform other complex actions without disturbing the connection of his ideas. When the state of mental pre-occupation has disappeared, there may be no recollection of the acts that have been performed. In the case of a person playing the piano and at the same time carrying on a conversation we have a striking illustration of the simultaneous performance of a mental and an automatic act. The mind is engaged with ideas, and the spinal cord directs the manipulations necessary to the proper rendering of the musical composition. A person who is not proficient in the use of the instrument cannot at the same time play and converse with ease, because the spinal cord has not acquired a sufficient degree of automatism, and the mind cannot be divided in its action. Darwin has recorded a striking example of the independent action of the brain and the spinal cord. A young lady was playing on the piano a very difficult musical composition, which she performed with great skill and care, though she was observed to be agitated and pre-occupied. When she had finished she burst into tears. She had been intently watching the death-struggles of a favourite bird. Though her brain was thus absorbed, the spinal cord had not been diverted from the office of carrying on the muscular and automatic actions required for her musical performance.

Occasionally the attacks of somnambulism have been so long and so frequent, that there is as much of a sleeping as there is of a waking state, and thus has arisen the singular phenomenon known as "double consciousness." Trains of thought are carried on from one attack to the next, though in the normal interval the mind is quite unconscious of them. In a remarkable instance of this kind, the patient, a servant girl, began by being subject to attacks of extreme sleepiness; next, in these sleeps she began to be talkative. Soon there appeared to be some method in what she said; she personated an episcopal clergyman, went through the baptismal service for three children, and delivered an extempore prayer. Another time she thought she was a jockey at Epsom, and rode round the kitchen on a stool. On awaking these pranks were forgotten, although in succeeding fits she remembered all that had occurred. Thus one night one of her fellow-servants was rude to her when somnambulistic. The next day the insult was forgotten, but shortly afterwards she had another attack, and told her mother about it. It is stated that education may be carried on, and even languages acquired, during somnambulism, but this is very doubtful.

The subjects of somnambulism not unfrequently suffer in addition from nightmare. In nightmare there are generally apparitions, horrible or ludicrous, with always a distinct consciousness of inability to move. It may arise from the presence of indigestible food in the stomach, or from wind, or acidity. The suffering usually commences with a disagreeable vision, and the sleeper attempts to escape from some imaginary danger. Then he experiences a sense of suffocation, which increases until there is an imperfect consciousness that he is in bed. But still there continues the tormenting oppression from the weight on the chest, which keeps him lying on his back. The oppressed breathing becomes more and still more painful; palpitation of the heart sets in, attempts are made to move the arms, but it is found

impossible to do so, and the countenance assumes a ghastly expression, with the eyes half open. In a minute or two the power of movement returns, the patient by a mighty effort succeeds in rousing himself, fearing each moment lest the horrible paroxysm should recur.

Morbid dreams are not unfrequently among the premonitory symptoms of insanity, and should be regarded as an indication, either that the digestive organs are not performing their functions properly, or that the patient is over-taxing his strength bodily or mentally, or perhaps both. Many cases of insanity preceded by terrifying dreams have been recorded. In one a lady dreamed that she had committed murder under circumstances of great atrocity. She cut up the dead body, but could not with all her efforts divide the head, which resisted her blows with an axe and other instruments. Finally she filled the nose, eyes, and mouth with gunpowder, and applied a match. Instead of exploding, smoke issued slowly from the orifices of the skull, and was resolved into a human form, which finally assumed the shape of a police officer sent to arrest her. She was imprisoned, tried, and sentenced to execution by being drowned in a lake of melted sulphur. While the preparations were being made for the punishment she awoke. This dream was repeated on several subsequent nights, and finally it made such an impression on her mind, that she had to be placed under restraint.

We must now turn our attention to the measures that may be taken for the cure of somnambulism, and the allied conditions to which we have had occasion to refer. To begin with, it is essential that the patient should be removed from the society of those who would be disposed, thoughtlessly perhaps, to foster into a habit the recently-established disease. This of course applies chiefly to the case of boys and girls at school. Then the patient must be prevented from falling into that morbidly deep sleep in which the phenomena we have described are usually produced. He should never be allowed to indulge in what has been called the "intoxication of repose." This is best accomplished by waking him up once or twice in the night, before he has had time to walk or talk or perform other unseemly acts. In the case of adults, this may be accomplished by an alarum, which may be purchased for a few shillings. This simple precaution will often succeed in effecting a cure. Should the patient always or usually become somnambulist at a certain hour, the alarum should awake him a little before that time. People have sometimes cured themselves by tying their wrists to the bed-post before going to sleep. Care should be taken to lie with the head high, and the body should not be covered with too great a weight of bed-clothes. When the health is below par it should be seen to at once, or treatment will prove of little avail. Constipation should be remedied without delay. Plenty of exercise should be taken in the open air, and the hours of sleep may be advantageously limited to six or seven—that is, for an adult. The bedroom should, if possible, be large and airy, but at all events the windows should be left open all night for a good inch at the top, winter and summer. Heavy suppers must be avoided, and malt liquors are to be taken with caution. The best supper for a somnambulist is a glass of milk and a piece of dry bread or a biscuit. He should sleep on a hard mattress in preference to a feather bed. The specific medicine for these cases is bromide of potassium—two or three table-spoonfuls of the mixture

(Pr. 31) every night. Should this fail to afford relief in a fortnight, five grains of bromide of ammonium should be added to each dose. The bromide of potassium is of essential service in the case of the somnambulism of young children. The child usually gets out of bed while fast asleep, walks about the house, and performs, as if awake, various acts quite unconsciously. The state is not accompanied by any terror, although in some cases there is squinting. In these cases, from half a table-spoonful to a table-spoonful of the bromide of potassium mixture will prevent the screaming and remove the squinting. The affection in children being almost always connected with deranged digestion, the condition of the stomach and bowels should be attended to, but even in spite of these derangements the bromide will give quiet and refreshing sleep.

For nightmare the treatment is practically identical with that of somnambulism, and the bromide of potassium may be employed with every confidence. In cases where the attacks are obviously due to acidity, a dose of bicarbonate of potash or bicarbonate of soda in water, taken either at bed-time or in the middle of the night, will often afford relief. Many people sleep with a reel tied round their loins, and this, probably by preventing them from lying on the back, not unfrequently succeeds in warding off attacks. This device is often resorted to in spermatorrhœa with success.

SORE THROAT (CLERGYMAN'S).

This is a form of sore throat which merits our best attention. It arises partly from the straining of the voice in public speaking, and partly from the inspiration of cold and dusty air through the nose and mouth during the act. It is not by any means confined to clergymen, for barristers, actors, and singers are frequent sufferers. It is not unfrequently met with in medical men, especially in those who hold hospital appointments, and have much lecturing or teaching to do. There is another public speaker who is frequently a sufferer, and that is the costermonger; indeed, a few years ago it was irreverently proposed to change the name of the complaint, and call it "costermonger's sore throat." Photographers and others who are much exposed to the fumes of acrid chemicals in confined chambers often suffer from a very similar condition.

This form of sore throat is frequently in its earlier stages a purely nervous affection, being unattended with any organic change. Subsequently, however, it gives rise to congestion, inflammation or relaxation of the mucous membrane of the throat, together with elongation of the uvula, and chronic enlargement of the tonsils.

The symptoms consist principally of an uneasy sensation in the upper part of the throat, with constant inclination to swallow, as if there were some obstruction which could be removed by that act. Frequently attempts are made to clear the throat by coughing and hawking, and the patient is always going "*hem!*" in a manner which is as distressing to himself as it is annoying to others. At the same time the voice undergoes an alteration, there being loss of power and hoarseness, and sometimes even complete aphonia (loss of voice) towards evening. Many of the symptoms are worse in the morning, probably from the mouth becoming dry during sleep, and

they are nearly always worse after an unusual exertion of the voice, as, for example, in the case of ecclesiastics on Sundays. The elongated uvula frequently gives rise to a tickling in the throat or to the sensation of the presence of a foreign body, especially on bending the head backwards and on lying down. The sleep is frequently disturbed from this cause.

Our remarks on the treatment of relaxed sore throat are in a great measure applicable to this complaint. If taken early, comparatively little difficulty will be found in effecting a cure. In its early stages the treatment should consist chiefly in the use of tonics, especially iron and quinine, the cold plunge or shower bath, or sea-bathing and temporary change of scene and occupation. Two or three glasses of port wine daily will prove of use. This, however, will not always effect a cure. In more chronic and obstinate cases, iodide of potassium (Pr. 32), or bromide of potassium (Pr. 31), or bromide of ammonium may be tried. It should be borne in mind that iodide of potassium is a somewhat lowering and depressing drug, and we should not advise its continuance for more than ten days unless distinct benefit is perceived. Belladonna (Pr. 39) is often used with advantage, particularly when the throat is ulcerated and of a bright red colour, and there is pain on swallowing. A tincture of pokeweed (*Phytolacca decandra*) has been highly recommended. The indications for its use are hoarseness, or loss of voice, with great dryness and a feeling as of a lump in the throat. It should be taken in three-drop doses, in a little water every three hours. It may also be used as an inhalation, or as a gargle, the strength being twenty-five drops of the tincture to a quarter of a pint of water. Wyeth's Chlorate of Potash Tablets are useful.

The glycerine of tannin, of which we have already had occasion to speak so highly (p. 468), is the application on which we should place most reliance. Any of the inhalations, the formulæ for which we have given (p. 469 and Prs. 104, 105, and 106), may be tried with a fair prospect of success. Benzoic acid lozenges (Pr. 107) often act beneficially. A cold wet compress applied to the throat every night at bed-time frequently proves a very effectual remedy.

There are certain accessory modes of treatment to which it is of the greatest importance to pay attention. In the first place the inflamed organ must have rest. In the case of an inflamed knee-joint, the necessity for rest is at once acknowledged, and no time is lost in devising means with this object; but in the case of an inflamed throat or larynx, it is usually the last thing thought of. Any one suffering from clergyman's sore throat should be extremely careful not to exert the damaged organ in any way. Even ordinary conversation should be carried on in an undertone, and should not be prolonged.

There is another point which is very commonly neglected. Every working man requires one day's rest in the seven. The duties of a conscientious clergyman are every bit as toilsome and far more harassing than those of a mechanic or day labourer, and he should make it a rule to take a thorough holiday every Monday. It should be a day of out-door recreation, and cessation from all work. This will in some degree compensate for the great mental and physical expenditure involved in the discharge of the duties of the Gospel on Sunday.

Clergymen and lecturers often get into the habit of speaking in a voice which is

not natural to them. They use an assumed tone of voice, in many cases probably unconsciously imitating some one whose delivery they admire. Undue stress is laid on the larynx and vocal cords, which ultimately yield to tension. The best way is to take the opinion of a teacher of elocution on the point, and follow his advice.

The beard and moustache should be permitted to grow, as they form the best of all protections for the throat. In men, throat affections occur chiefly, and it is said almost exclusively, amongst those who do not wear a beard. It is the opinion of many medical men that the beard not only adds materially to the general health and comfort of the individual, but is a powerful agent in prolonging life. It is said that amongst the records of the older medical writers there are few references to diseases of the throat, and that this is attributable to the then almost universal custom of wearing a beard. This may be true, or it may not; but at all events, if you habitually suffer from sore throats, our advice is—grow a beard if you can.

The sulphuretted waters of the Pyrenees, especially of Les Eaux Bonnes, are viewed by the French as almost a specific for *mal de gorge des ecclésiastiques*, and undoubted benefit is often derived from their use, especially when the voice remains weak after the other symptoms have been removed.

SORE THROAT (ORDINARY).

This is simple inflammation of the throat, without the affection of the tonsils which, as we have seen, is characteristic of quinsy.

The most frequent cause of this complaint is exposure to damp and cold. All causes which tend to lower the condition of the general health, and more especially over-work in a vitiated atmosphere, act as predisposing causes. It is met with chiefly in young people, but may occur at any age. Those who have had one attack are very likely to suffer from it again.

The chief symptoms are heat and dryness in the throat, with acute pain on swallowing, and more or less of hoarseness of the voice. There is a constant desire to cough, without anything being hawked up. Drinks sometimes regurgitate through the nostrils, and there is often much pain and stiffness about the angles of the jaw. From the quantity of saliva secreted, there may be an almost constant desire to expectorate. The symptoms are usually aggravated towards night.

The complaint is accompanied by more or less constitutional disturbance, the temperature varying from 101° to 102° Fahr., and the pulse from 100 to 120 beats in the minute. Sometimes the commencement of the attack is marked by slight rigors or chilliness, with headache and aching pains in the limbs.

The inflammation usually continues for about a week, and then gradually subsides. It is unattended with danger, unless, indeed, the larynx becomes affected, and there is shortness of breath, when the doctor should be sent for. Sore throat, although a comparatively trivial complaint, should not be neglected, as it is apt to become chronic, and it then runs an indefinite course, and is by no means easy to cure.

The patient should remain in-doors, but need not take to his bed, rest and a uniform temperature being all that are required. The diet should consist chiefly of

"slops," as, for example, strong beef-tea, milk, eggs, &c. No stimulants are as a rule necessary.

The medicinal treatment is very similar to that which we have recommended in quinsy. In the early stage, when the patient is feverish, aconite (Pr. 38) should be given. It is indicated when the prominent symptoms are dryness, roughness, and heat in the throat, accompanied by a choking sensation. Belladonna (Pr. 39) is useful when the fever has been brought down by the aconite, and when there is pain on swallowing and the throat feels as if it had been scraped raw. The grey powder (Pr. 71) is useful when there is a sensation of a lump in the throat, or when the secretion of saliva is much increased.

Quite at the commencement of the attack a Turkish bath will do good. The constant sucking of ice or gargling with milk-and-water always proves beneficial. Prs. 103, 108, 110, and 111 are useful when the acute symptoms have subsided.

SORES, OR ULCERS.

Ulcers are of common occurrence on the legs. They are especially liable to be produced by all those circumstances that favour weakness of the circulation, and lowered vitality, as, for example, exposure to cold and wet, want of food, and long standing. They are common at or after the middle period of life, especially in the poorer classes. In constitutions or parts predisposed to it, the slightest irritation may produce ulceration. Tall people more frequently suffer from sore legs than do short. When situated over bony prominences they are far more difficult to heal than when they have a good thick layer of muscle or fat beneath them.

There are many varieties of ulcers, not solely being dependent on local conditions, though these undoubtedly influence them greatly, but to a great extent due to constitutional causes. In fact, the aspect of a sore and the character of the discharge are excellent indications of the state of health and general condition of the patient, as well as of the local disease. Even the influence of sleep is well marked. After a restless night a sore is commonly painful, throbbing, inflamed, and swollen, and is apt to spread, whilst after a refreshing sleep it presents a much more healthy appearance. The simplest form of ulcer is what is called the healthy ulcer. It is usually circular or oval in shape, slightly depressed, and covered with matter. It has a natural tendency to get well. Its treatment should be as simple as possible. The best thing is to get some lint, cut it to the size of the ulcer, dip in a weak carbolic acid lotion (1 in 400), then lay it on the sore, and cover it with a rather larger piece of oiled-silk, and prevent it from getting dry. A nicely-applied bandage will keep the dressing in place, and will also give support to the part. When an ulcer is weak or indolent, and exhibits no inclination to get well, it is a good plan to apply some stimulating lotion. One of the best is known as "red-wash." It is made by dissolving forty grains of sulphate of zinc in a pint of water, and then adding half an ounce of compound tincture of lavender. It is used on lint in exactly the same way as the carbolic acid lotion. It is in constant use in many of our London hospitals for cuts, sores, and abrasions of all kinds. When an ulcer gets inflamed, a condition characterised by much redness, heat, and swelling of the

surrounding parts, with a thick, offensive discharge, often streaked with blood, the application of a piece of lint, kept constantly moist with a mixture of spirit and water, will do good. It should not be covered with oiled-silk, and the leg should be supported either on the sofa or on a chair. For ulcers of the leg resulting from enlarged or varicose veins, nothing is better than to use the red lotion, and then to wind a bandage made of some elastic material all up the leg, beginning from below. The bandage should be put on in the morning, before getting out of bed. An elastic stocking will do equally well, and is less trouble, though of course it is more expensive.

Constitutional treatment is an important element in the cure of ulcers; in fact, unless this be attended to the best regulated local measures may be employed in vain. For the process of healing to go on satisfactorily, it is absolutely necessary that the strength should be well supported. When the patient is weak and pulled down, such remedies as quinine (Pr. 9 or 11), cod-liver oil, or Parrish's Chemical Food should be used. When there is anæmia, or poorness of the blood, a few doses of iron (Pr. 1 or 2) will often work wonders. When there is any suspicion of a gouty taint, either hereditary or acquired, the colchicum mixture (Pr. 33) should be taken, and the strictest moderation must be employed in the use of stimulants. When the patient has at any time—even years before—suffered from constitutional syphilis, he should consider the possibility of his sore being due to that cause, and would do well to resort for a time to the iodide of potassium mixture (Pr. 32). In every case the nutrition must be carefully attended to. If a patient is losing weight his ulcer will not heal. It is only when the nutrition is capable of maintaining or increasing the bodily weight that the healing process can be expected to take place. The bowels must be kept freely open, and a warm bath should be taken occasionally.

There is no better mode of treating ulcers than by rest. When an ulcer proves obstinate and will not heal, take a thorough rest, if it be only for a week. There is no occasion to keep in bed, but no walking is admissible, and the leg should be constantly supported, and should never be allowed to hang down. When rest positively cannot be taken, bandaging is always a safe mode of treatment, the actual sore being protected by damp lint from contact with the coarse fabric of the bandage. A dirty bandage must never be used. The frequency with which the wound is dressed will in a measure depend on the amount of discharge. As a rule, twice a week is often enough. In the treatment of ulcers, as of so many other complaints, undeviating cleanliness is of the utmost importance. The uncleanly habits of many people, who allow their feet and legs to remain unwashed from week's end to week's end, induces an imperfect vitality of the skin, which favours the formation of ulcers, and renders them difficult to cure. Washing the lower extremities daily is one of the most potent means of preventing and curing sores on the legs, restoring, as it does, the lost vitality of the parts.

There are many other modes of treatment that may be resorted to should these measures fail. Finely-powdered cinchona bark dusted over foul, indolent, or sloughing sores, and left to form a kind of poultice, not unfrequently promotes the healing process. Glycerine of carbolic acid is a useful application for fetid sores,

quickly removing the offensive odour of the discharge. A good soothing application is calendula lotion (Pr. 97). It is made by adding thirty drops of tincture of calendula (the common marigold) to a tea-cupful of water. Common lime-water, to which a little glycerine may be added, is a soothing application for sores from which there is much discharge. Glycerine of tannin lightly painted over a discharging ulcer will cover it with a film of coagulated mucus, beneath which the reparative process takes place rapidly. For ulcers with a hard base and overhanging edges, a good lotion may be made by dissolving one grain of common bichromate of potash in eight ounces of water. When a sore is indolent, and shows but little tendency to heal, it is a good plan to draw a stick of lunar caustic over the surface once or twice. It causes very little pain. In very obstinate cases the surgeon often resorts to the process of "skin-grafting." This consists in removing very minute fragments of skin from some other part of the body, or even from another person, and then putting them on the surface of the sore. They are to be covered with little squares of oiled-silk, dressed with some simple lotion, and then left undisturbed for four or five days. At the end of that time they will probably have disappeared, but soon each of these spots becomes a centre from which healing takes place rapidly. For a small ulcer two or three "grafts" will have to be used, for a larger one half-a-dozen, or perhaps more. They are conveniently taken from the forearm or leg, being cut off with a pair of scissors. The process gives no pain, and the great point is to cut so small a piece that no blood is drawn. This mode of treatment greatly facilitates the process of cure.

STOMACH.—INFLAMMATION OF THE STOMACH.

Acute inflammation of the stomach and inflammation of the bowels are so intimately associated that the two subjects may be conveniently described as one. It is remarkable, all things considered, how rarely inflammation of the stomach occurs. The stomach is essentially a long-suffering organ, and will bear a great deal before showing signs of irritation. Acute inflammation may arise from swallowing something more than usually irritating, or from a blow or wound, or possibly the inflammation may extend from some other part. In exceptional cases it arises from cold or wet, and sometimes from gout or rheumatism "striking inwards." The ordinary symptoms are pain, usually of a burning character, experienced chiefly at the pit of the stomach, with frequent vomiting, especially after taking food, often with hiccup and tenderness and swelling of the lower part of the abdomen. The temperature will be found to be elevated two or three degrees or more, and the pulse is quicker than usual. The patient feels faint and weak and ill, and is only too glad to take to his bed. The pain is increased by pressure, and often the slightest touch cannot be borne, not even the weight of the bed-clothes. The sufferer is tormented with extreme thirst, but everything is instantly rejected. The bowels are usually confined, but sometimes on the contrary there is diarrhoea with much griping and straining. This is a condition which might possibly be confounded with TYPHOID FEVER.

Acute inflammation of the stomach is a most serious affection, and where possible a medical man should be instantly summoned. Still, even when it is impossible to

obtain skilled assistance, much may be done to subdue the inflammation and relieve suffering. The patient should be undressed and put to bed. Should the bowels be confined, a simple enema should be given of a pint or more of gruel or soap-and-water. A large hot linseed-meal poultice should be applied over the whole abdomen, and this should be renewed every two hours or oftener both night and day. The best medicine to begin with is the aconite mixture (Pr. 38), a tea-spoonful every ten minutes for the first hour, and then hourly or every two hours for one or two days. Under the influence of the aconite the pulse becomes slower and softer, and the skin cooler and moister, whilst the pain subsides and the patient falls into a quiet slumber, from which he awakes refreshed and better in every way. The thirst, which is so distressing a symptom, may be relieved by sucking small pieces of ice. At first, probably, no food will be retained, but after a few hours the patient will be able to take a little milk, or milk and soda-water, or milk and lime-water, care being taken not to give more than a tea-spoonful at a time. As the pain and inflammation subside, a little beef-tea or Brand's essence, or even a little weak brandy-and-water may be tried. When the vomiting is very persistent, the aconite may be discontinued, and the arsenic mixture (Pr. 40) substituted; or should this fail, the tartarated antimony mixture (Pr. 46) may be given. There is a special form of inflammation of the bowels which attacks women who have been recently confined, and this is treated in the same way.

STOMACH.—DISEASES OF THE STOMACH.

For BLEEDING from the Stomach, *see* p. 137. For CANCER of the Stomach, *see* p. 169. For ULCER of the Stomach, *see* p. 568.

SUNSTROKE.

Sunstroke, *coup de soleil*, insolation, or heat apoplexy, for by all these names is this complaint known, has been recognised from the earliest times, and could in fact hardly have escaped observation. There is a case of it related in the Bible. "And Manasses was her husband, of her tribe and kindred, who died in the barley harvest. For as he stood overseeing them, and bound sheaves in the field, the heat came upon his head, and he fell on his bed and died in the city of Bethulia." It is by no means uncommon in this country, and during the summer months one can hardly take up a paper without seeing the account of a case. In tropical climates it is of much more frequent occurrence than with us. In England the field labourer is the most frequent sufferer, but in India the greatest number of cases occur amongst troops engaged in long marches under a scorching sun. Exercise exhausts the store of nervous force and increases the natural warmth of the body, the high temperature of the surrounding air precludes due radiation from the surface, and the result is a sunstroke. The effects of a high temperature are much influenced by the style of dress adopted. In India sportsmen often expose themselves to the hottest weather when in pursuit of game, but they rarely suffer provided they take the precaution to wear loose light clothing and to protect the head and spine by a suitable head-dress. On the other hand, men dressed as our soldiers used to be, in tightly-fitting clothing, encumbered with heavy, ill-arranged accoutrements, and furnished with a

head-dress that was useless or worse than useless, succumb to the effects of heat in large numbers.

Exhaustion as the result of prolonged exercise is a powerful predisposing cause of sunstroke. When severe muscular exertion is carried on for any length of time, as in prolonged marching, under a continuously high temperature, perspiration ceases, and not only is the cooling effect of its evaporation lost, but impurities are retained in the blood. The result is that the sufferer soon becomes wretchedly weak, and readily falls a victim to the excessive heat.

Direct exposure to the rays of the sun is by no means necessary for the production of sunstroke. It is not of unfrequent occurrence among men shut up in the impure and heated air of close barracks in hot climates. It is often observed on board ship when overcrowding and impure air are added to the influence of excessive heat. It is not of frequent occurrence in ships in mid-ocean, but it is common enough in the Red Sea during the months of August and September. It is especially to be dreaded when excessive heat is aggravated by prolonged calms.

It is now well known that men will bear a high temperature in the open air with comparative impunity, provided it is not too long continued, that the dress is reasonably adapted to the temperature, that the free movements of the chest are not interfered with by straps or baggage, and that alcoholic liquors are not indulged in.

The symptoms of sunstroke vary much in different cases. Often without the slightest warning the patient falls, gasps, and expires before anything can be done for him. Sometimes the attack is less sudden in its mode of onset, and there are premonitory symptoms giving notice of the coming danger. The skin gets very dry and hot, and the temperature rises to 107° or thereabouts. The patient complains of giddiness, weakness, and nausea, and often of an inability to hold his water. Soon he becomes hysterical or delirious, and rushes out roaring with laughter, or perhaps screaming with terror in an attempt to escape from some imaginary enemy. People in this state have endeavoured to take their lives or to injure those who have tried to restrain them. After a time the patient becomes insensible, the heat and dryness of the skin augment, and the closing scene is ushered in by an attack of convulsions. In the former variety death ensues almost instantaneously, whilst in the latter the symptoms may be protracted over a couple of days.

Now as to the treatment of sunstroke. Throw some water over your patient, and carry him as quickly as possible to the nearest shade. Strip off his clothes, and douche his head, face, and chest with cold water. If this treatment be quickly and energetically performed it may save his life. Should the skin remain hot, repeat the douche at intervals. Apply ammonia, or sal volatile, or smelling-salts to the nose occasionally. If sensibility be not restored by the douche, apply a blister to the nape of the neck, or get the head shaved and put a blister on the scalp. Two drops of croton oil placed at the back of the tongue will cause the bowels to act, and will do good. Get medical advice as soon as you possibly can.

Bleeding should never be resorted to. When the patient is bled he nearly always dies. In illustration of the pernicious effects of bleeding in sunstroke the

following case is related :—" During active service in the presence of the enemy, an officer of rank had sunstroke. The assistant-surgeon in medical charge of the battery where this happened had the sufferer instantly removed to the nearest shade, stripped him, used the douche freely, and had the satisfaction to see his patient revive and consciousness return. An *official superior* "*an older, not a better*" physician, unhappily coming up at this critical moment, insisted on opening a vein ; a few ounces of blood trickled away, and so did the life of the officer." Death immediately followed the operation.

When there are convulsions the administration of chloroform is often attended with the most beneficial results. By prompt, careful, and judicious treatment one may fairly hope for recovery. At the same time, those who recover are scarcely ever the men they were before ; they are subject to persistent headache, lose their memory and their force of intellect, and become incapable, fatuous, and even paralytic. Epilepsy often occurs in those who have an hereditary tendency to it. For the persistent headache following sunstroke the best treatment is bromide of potassium, in two-tablespoonful doses of the mixture (Pr. 31). An occasional blister applied to the nape of the neck will do good. The general health should, as far as possible, be maintained and improved by friction of the skin, bathing, exercise in the open air, and so on.

For the prevention of sunstroke the following rules are important :—A cold bath should be taken every morning, to ensure a free and clean skin. Natural perspiration should not be checked. The clothing—flannels are the best—should be light and loose, and the head and spine should be protected by thin folds of white linen or serge, which may be kept wet if the heat is excessive. All intoxicating liquors—beer, wines, and spirits—are to be avoided ; but water, tea, lemonade, or some other simple drink should be taken freely.

Directly there is experienced any sense of pain or tightness about the forehead, or dizziness, or weakness, the sufferer should lie down, and have cold water poured gently over his head. Cold tea or coffee or iced water should be given to drink. A little sal volatile will do no harm, but spirits should not be given unless the prostration is very great.

The following are briefly the rules which should guide the management of soldiers and others travelling in tropical climates :—The weak and sickly had better be left behind when the heat is very great. The costume should be adapted for the early morning hours before sunrise, as well as for the scorching heat which follows. A flannel shirt should be worn, and the neck should be perfectly free. Nothing should be permitted to impede the free movements of the chest. The men should march "easy," and the pace should not exceed three and a half miles an hour. There should be a halt of five or ten minutes every hour, and a longer half way, when every one should have a biscuit and a cup of coffee. When the sun is up the halts should be so timed that they may be obtained in the shade of trees. In camp as much space should be allowed between tents as possible.

TETANUS—LOCKJAW.

Tetanus is a disease the prominent feature of which is spasm. We medically recognise two different kinds of spasm. In one form, which we call *tonic* spasm, there is a continuous contraction of the muscles, just as when you get cramp in the calf of the leg. In the other kind, *clonic* spasm, there are alternate contractions and relaxations of the muscles, just as you get, for instance, in convulsions. In tetanus the spasm is entirely tonic, the muscles being in a constant state of contraction.

Most cases of tetanus are caused either by exposure to cold and wet, or by bodily injuries. Not unfrequently both causes co-operate in producing the disease. When it sets in spontaneously—as it does sometimes—or as the result of cold, it is called *idiopathic* tetanus; and when it comes on after a wound or injury we speak of it as *traumatic* tetanus. In this country idiopathic tetanus is rare, nearly all our cases being traumatic. It is a curious circumstance that tetanus occurs much more frequently in hot climates than in cold. In India tetanus is frightfully common, and is a frequent cause of death after operations.

Tetanus is liable to follow injury of any kind, to any part of the body. It may set in after the slightest scratch or wound, or after the most severe surgical operation. The disorder more frequently supervenes upon injuries of the extremities than of the trunk, head, or neck, and upon wounds made by puncture, than upon other hurts. Penetrating wounds of the sole of the feet, such as may be inflicted by treading on a nail, and injuries to the ball of the thumb, are more likely than other injuries to be followed by tetanus. There is a prevalent opinion that tetanus is very apt to arise from a cut between the first finger and thumb, but we are not aware that this has any foundation in fact.

The symptoms set in suddenly, the muscles of the neck, jaws, and throat being usually first affected. The patient experiences a difficulty and uneasiness in bending or turning his head, and says he feels as if he had a sore throat and stiff neck. He finds also that he is unable to open his mouth with his customary ease. At length the jaws close, sometimes gradually, and sometimes it is said, quite suddenly with a snap. In the majority of cases the disease begins in this way—hence the origin of the name *lock-jaw*. As the disease proceeds the remaining muscles, those of the trunk, and lastly those of the extremities, become implicated. The spasm never entirely ceases, except in some cases during sleep, but it is aggravated every quarter of an hour or so, the increased cramp lasting for a few minutes and then partially subsiding. When the big muscles of the back are chiefly affected they bend the body into the shape of an arch, so that during a paroxysm the patient rests on nothing but his head and heels. Sometimes it is the muscles on the front of the body that are chiefly involved, and the patient is then bent forward till the head and knees are almost in contact. Occasionally, though very rarely, the muscles on one side only are affected, and then the body is bent laterally. The suffering caused by tetanic spasm is absolutely frightful to contemplate. The face becomes deadly pale, the brows are contracted, the eyes are fixed and prominent, the nostrils are dilated, the corners of the mouth drawn back, the teeth exposed, and all the

features fixed in a ghastly grin. The tongue is apt to get between the teeth, and to be severely bitten. The contractions are often attended with intense pain, which is worse during the paroxysm, and extends over the whole body. With all this disturbance of the muscular system there is commonly very little derangement of the other functions of the body. The intellect is not affected, and the patient is painfully alive to the critical nature of his condition. Death at length closes the scene, the release being due partly to suffocation, and partly to exhaustion.

The tetanic symptoms may come on at any time after the receipt of the injury, from a few hours to a couple of weeks. After the disease has set in, its rate of progress is very variable, but death is most likely to occur between the third and fifth days. If the patient survive the ninth day of the disease, his prospects of recovery are much more favourable, and the spasmodic symptoms may gradually abate and disappear. When the spasm is not violent, when the paroxysms are short, and recur at long intervals, and when the patient is able to sleep, we may hope for a favourable termination. In traumatic cases the longer the disease delays its assaults after the receipt of the injury, the milder, in general, does it prove.

There is no difficulty in recognising the existence of tetanus. There is no other disease for which it could be mistaken, with the exception, perhaps, of that wonderful complaint hysteria, which may simulate almost anything. The symptoms produced by poisonous doses of *nux vomica*, or its active principle, strychnia, are, however, almost identical with those of tetanus, and it is well-nigh impossible to distinguish between them. When a large poisonous dose of *nux vomica* is administered death either rapidly ensues or the symptoms decline, and recovery takes place. *Nux vomica* may, however, be given in small doses, frequently repeated and gradually increased so as to imitate exactly the phenomena of tetanus from natural causes.

We will now speak of the treatment of tetanus. The patient must be put to bed, and should be kept as quiet as possible. The slightest touch, a breath of cold air, or the slamming of a distant door will often excite a paroxysm. Nothing proves more injurious than meddlesome nursing. We have as yet no specific for tetanus, and it is consequently impossible to speak dogmatically as to its treatment. We can do little more than enumerate the remedies from which most benefit has been derived. The drug on which we place most reliance is Calabar bean. To do any good it must be given in large doses, but we can hardly recommend its administration except under the personal superintendence of a doctor. Large doses of chloral sometimes do good, and even when this remedy fails to effect a cure it often prolongs life and eases the pain. The inhalation of nitrite of amyl might do good. Gelsemium (Pr. 41) has been warmly praised in the treatment of tetanus, and several cases are recorded in which recovery has followed its administration. The application of an ice-bag to the spine, a measure which has been found extremely useful in convulsions, is well worthy of a trial. The spinal ice-bag was described when speaking of sea-sickness (*see* SEA-SICKNESS). The continuous administration of chloroform has in some cases proved beneficial. In tetanus resulting from injury it is very necessary that the wound should be carefully examined to see whether by chance any foreign substance may not have been left in the wound.

THROAT, DISEASES OF :—

See QUINSY, INFLAMMATORY SORE THROAT, p. 464.

RELAXED SORE THROAT, p. 467.

SORE THROAT (CLERGYMAN'S), p. 513.

SORE THROAT (ORDINARY), p. 515.

TONSILLITIS (*see* QUINSY, p. 464).

TOOTHACHE (ODONTALGIA).

Speaking generally, we may say that decay is the most common predisposing cause of toothache, and that sudden changes of temperature, the application of irritants, and general bad health are the most frequent exciting causes. Let us take, for example, an ordinary case of toothache, in which the pulp of the tooth becomes inflamed. In the first place a hole is discovered in the tooth, which may have resulted from decay or from some mechanical injury. Food and other matters collect in the aperture, and are from time to time removed. Their presence at first gives rise to no trouble, but after a while certain irritants, such as sugar, or salt, or acid matters, when lodged in the tooth occasion considerable inconvenience, which ultimately amounts to positive pain. The removal of the irritating matter is soon followed by the restoration of comfort. This state of things may go on for some time, but sooner or later the pain, instead of passing off, steadily increases, assumes a throbbing character, becomes still more acute, and extends to the neighbouring teeth and the side of the face, the faulty tooth forming the centre of its intensity. After the lapse of some hours the pain usually subsides, to return again on the slightest provocation. This is a story we fear is only too familiar to many of our readers.

Like all other pain, toothache is more or less intermittent; it is seldom that it is perfectly continuous, or if it be so it will vary greatly in intensity at different times. The character of the pain, as well as its severity, is greatly affected by the general condition of the patient. A low condition of bodily vigour, whether produced by over-fatigue, prolonged abstinence from food, or other cause, will tend to produce pain of a diffused rather than of a localised character, and will markedly increase its severity. Many kinds of toothache temporarily take their departure when the system is thoroughly supported, as after breakfast or dinner.

Very frequently, in addition to the pain, the tooth is exquisitely tender, and sometimes it feels as if it were longer than it ought to be.

It is, however, not every case of toothache which is dependent on, or accompanied by, decay. Mere malposition of a tooth will often give rise to the most intense suffering. The wisdom teeth, when they are making their way through the gum, often cause severe pain, even when there is ample room for them to take their place. Pain which is in reality due to the wisdom teeth is not unfrequently felt at a spot further forward in the mouth, the patient referring to some other tooth as the seat of his suffering.

We must now proceed to the consideration of treating toothache. As toothache may, as we have seen, depend upon many different causes, it need excite no surprise that very many different remedies are used and have been proposed for its cure. A large number of nostrums are sold as applications to the teeth and gums for the cure of toothache. It is almost needless to say that there is no such specific remedy, and that a mode of treatment which in one case acts like a charm may in another prove a signal failure, and afford not the slightest relief. Much depends on the judicious selection of the remedy; and that we may prove successful in our treatment it is very necessary that attention should be paid to the character of the pain and other attendant circumstances. We will, in the first place, refer to some of the remedies most frequently employed.

A few drops of chloroform on cotton wool inserted into the hollow of a decayed aching tooth often gives permanent relief, but sometimes when the anæsthetic effect has passed away the pain is aggravated, the application having irritated the inflamed pulp. A better plan is to fold over the hollow tooth a piece of lint moistened with chloroform, so that the vapour only comes in contact with the interior of the tooth. The preparation sold as camphorated chloroform often proves useful. A mixture of equal parts of chloroform and laudanum, or of chloroform and creasote, constitutes an excellent application.

Creasote may nearly always be employed with a fair hope of success. It may be mixed with an equal quantity of chloroform, or of laudanum, or with tannin. Laudanum either alone or mixed with tannin or creasote, and inserted into the cavity of the hollow tooth, enjoys a high and well-merited reputation.

For cases in which the pulp is exposed and inflamed, a jelly is made by melting in a test tube some crystallised carbolic acid, and then adding an equal quantity of collodion. A small quantity is placed on cotton wool and inserted into the hollow, painful tooth. It may at first somewhat aggravate the pain, but in a few seconds it diminishes and soon abolishes it. Care should be taken not to let it come in contact with the inside of the cheek, for, as we can testify from personal experience, it would give rise to considerable pain and smarting.

When there is a large hollow, and the pain is severe, a good application is a mixture of camphor and opium, of each one grain, made into a paste, with which the cavity should be filled, it having been previously dried by means of lint or cotton wool.

When equal parts of chloral and powdered camphor are rubbed up together, they form a syrupy liquid. This will sometimes succeed in relieving toothache even when applied externally; but it is more likely to afford relief when introduced into the cavity of the decayed tooth on cotton wool.

A plug of lint dipped in sulphurous acid, and inserted in the hollow tooth, will often give immediate relief.

It is stated on good authority that toothache may in many cases be relieved solely by the internal administration of medicines. Drugs given for this purpose should be given simply in water, and not in combination with other medicines. Should laudanum or creasote have been previously applied locally, the mouth should be thoroughly rinsed out before resorting to any new mode of treatment.

Grey powder proves useful in many forms of toothache, and is regarded by many as one of the best remedies for this complaint. It is used for toothache resulting from a decayed tooth. It proves of most value when the pain is gnawing, tearing, or boring in character, and is aggravated by eating, and also at night in bed, but is temporarily relieved by cold water. It is of value when the pain affects the entire side of the face extending upwards to the head, and backwards to the ears. It is especially indicated when the toothache is accompanied by an increased flow of saliva, and by profuse perspiration in bed, which fails to afford relief. One of the "sugar and grey" powders (Pr. 71) should be given every ten minutes for an hour. In many cases it is a good plan to introduce a small quantity of grey powder, of course not mixed with sugar, into the hollow of the decayed tooth.

Aconite is useful in toothache arising from cold. It is especially indicated when the pain is sharp and stinging, and is relieved by cold water. This form of toothache is usually accompanied by heat of the face and chilliness. A drop of the tincture of aconite, or a tea-spoonful of the aconite mixture (Pr. 38), should be taken every ten minutes. This may be advantageously combined with the local application of a few drops of the tincture on cotton wool.

Belladonna is found to do best when there are shooting, throbbing pains affecting several teeth on one side, so that it is impossible to say exactly which tooth it is that is aching. This form of toothache not unfrequently shifts from place to place, and it is usually increased by both hot and cold applications. It is often accompanied by determination of blood to the head, flushed face, excessive sensitiveness to external impression; such as noise or light, and by dryness of the mouth, and mental confusion. A drop of the tincture of belladonna, or a tea-spoonful of the belladonna mixture (Pr. 39), should be taken every ten minutes.

Arsenic is used when the pain is grinding in character, when it is increased by touching the affected tooth, or by lying on the painful side. This form of toothache is usually increased by rest and by cold, but is relieved by moving about, and by the application of warmth. Arsenic is also indicated when the pains are jerking in character, or when they occur chiefly, or are much aggravated, at night. It usually proves of benefit when the sufferer is much exhausted by the pain. A small tea-spoonful of the mixture (Pr. 40) should be taken every ten minutes for an hour.

Bryony is recommended when the pain is of a screwing character, when it is worse from warmth, is momentarily relieved by cold water, and more permanently by walking in the open air. A tea-spoonful of the mixture (Pr. 49) should be taken every ten minutes.

Nux vomica is found to be useful for darting pain in the teeth, and for toothache of a boring or gnawing character, especially when it comes on after dinner. A drop of the tincture of nux vomica, or a tea-spoonful of the nux vomica mixture (Pr. 44), may be taken every ten minutes for an hour.

Phosphorus should be given for tearing, shooting pains, worse in the open air, or after taking warm food. It is especially indicated when, in addition to

decayed teeth, there are gum-boils. Drop doses of the phosphorus solution (Pr. 53) may be taken every ten minutes for two hours.

Nitro-glycerine, or glonoine, is the remedy for pulsating toothache, accompanied by headache. A tea-spoonful of the one per cent. solution should be added to a pint of water, and of this a tea-spoonful may be taken every ten minutes till relief is obtained. It is a most valuable remedy.

Pulsatilla does good in cases where the pain comes on as soon as anything is taken into the mouth. The pain which is relieved by this remedy is worse in the evening, at night, and after the application of warmth. A tea-spoonful of the mixture (Pr. 43) should be taken every ten minutes.

Chamomile tea is indicated when the violent paroxysms of toothache come on from exposure to a draught, or from a sudden check to the perspiration.

Arnica is the remedy for pain in the teeth caused by mechanical violence. It does well in throbbing toothache, and in pain in the teeth as if they were being scraped. The tincture of arnica should be given in drop doses every ten minutes, or a tea-spoonful of the mixture (Pr. 42) may be taken in a like manner.

It will be seen that our remedies for toothache are sufficiently numerous. We will endeavour to classify the characters of the pain and the attendant circumstances for convenience of reference. When the toothache arises from cold or a chill, aconite, belladonna, grey powder, or nitro-glycerine are the remedies to select from. When the pain is connected with indigestion, we look to bryony, nux vomica, pulsatilla, or the grey powder. When it is associated with nervous symptoms, belladonna, nux vomica, or arsenic should afford relief. When it is rheumatic in its origin, we rely chiefly on grey powder, bryony, chamomile, or perhaps the *actea racemosa*. When the pain is increased by cold, aconite, arsenic, or belladonna should afford relief; but when it is relieved by cold, we must trust to phosphorus or pulsatilla. When toothache is accompanied by headache, belladonna or glonoine is indicated; and when the teeth feel too long, belladonna, bryony, or aconite. We should always endeavour to use the drug which is indicated by the greatest number of corresponding symptoms or attendant circumstances. If a remedy affords no relief after five or six doses have been taken, another should be selected. The necessity for keeping a stock of the most ordinarily-used tinctures will be at once apparent. Considerable delay must of necessity arise from having to send to a chemist for each medicine as it is required.

We may take this opportunity of mentioning that pain consequent upon extraction or other dental operation may often be quickly relieved by rinsing out the mouth with a mixture of one part of tincture of arnica to ten of tepid water.

It should be borne in mind that chamomile is the remedy for the irritation produced in children by teething.

Gelseminum has been highly recommended for toothache. It is undoubtedly a very valuable remedy, but we are inclined to think that it does not do much good in pure toothache. It is the neuralgia arising from decayed teeth that it cures, and in these cases we believe that it stands almost unrivalled. Very frequently the pain of the decayed tooth and the neuralgia are experienced at the same time. If now gelseminum be given it will generally cure the neuralgia, but leave the

toothache unaffected. This, of course, is an advantage by no means to be despised, for neuralgia is usually a much more obstinate complaint than toothache. Ten-drop doses of the tincture may be taken every hour for three or four hours, or *Pr. 41* may be employed.

Another excellent remedy for neuralgia arising from a decayed tooth is croton chloral. It should be given dissolved in water in five-grain doses every four hours.

When toothache resists every other means of treatment we may have to resort to a hypodermic injection of morphia, but this is seldom necessary.

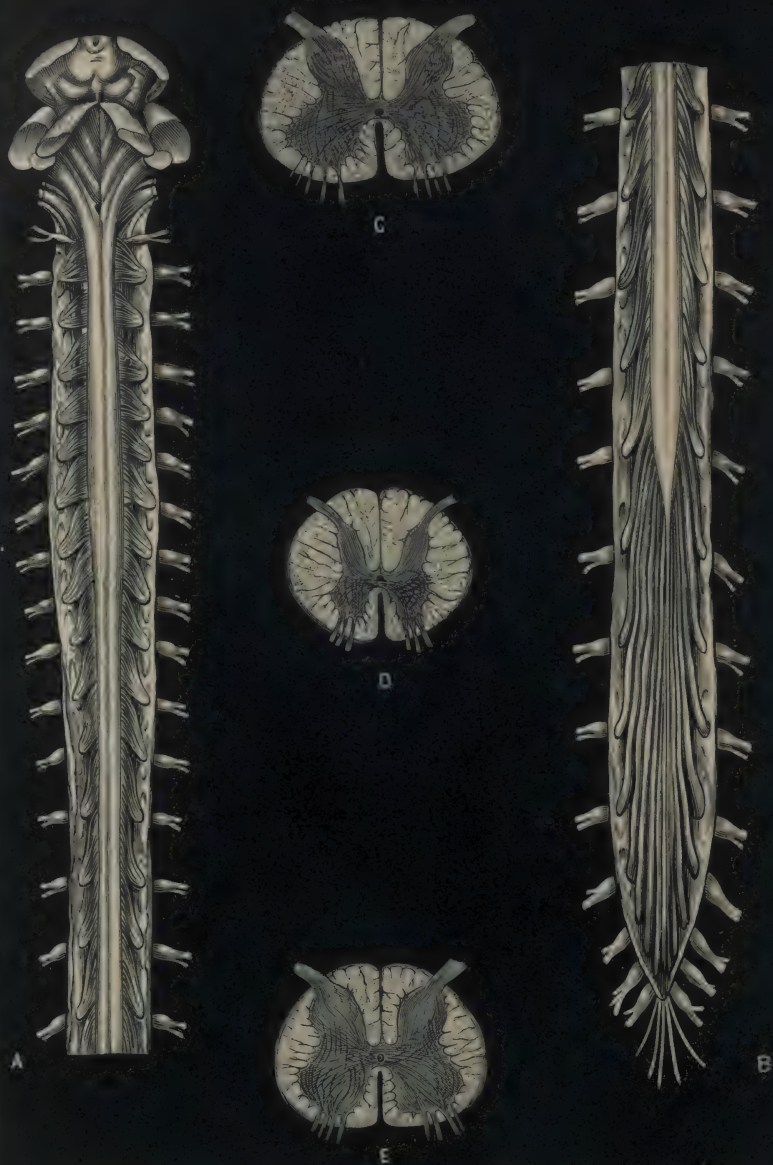
Galvanism is occasionally employed in toothache. One pole is applied to the neck and the other is placed in contact with the painful tooth, a gentle continuous current being passed for two or three minutes. It does not always prove successful.

In the majority of cases in which a tooth is decayed a dentist should be consulted respecting the advisability of having it stopped. When the patient is so situated that he cannot obtain professional aid he may himself clean out the cavity and then fill it with white wax or prepared gutta percha. Of course, in many cases, where the decay is extensive, the only remedy will be extraction.

The importance of paying proper attention to the teeth cannot be over-estimated. One great cause of the decay of the teeth is the presence of bits of food, which stick between the teeth and then soften and ferment in the heat and moisture of the mouth, and become acrid and injure the enamel. The enamel is at first slightly discoloured at one point, then it gets soft, and eventually a little hole forms in it, which goes on enlarging and increasing until the deeper structures are involved and the pulp is exposed. Very often the secretions of the mouth mixed with the food dry on the teeth and between them, and form the so-called tartar, which is a powerful agent in the production of decay. The only way to guard against these dangers is to keep the teeth perfectly clean. They should never on any account be brushed less than twice a day. Brushing the teeth in the morning, and in the morning only, is not enough. When possible they should be brushed after every meal, especially when animal food has been taken. The avocations of many people, which take them from their homes, may not allow them to brush their teeth after every meal, but they can at all events thoroughly wash out the mouth with cold water, and thus remove most of the food which would otherwise adhere. The idea that frequently brushing the teeth tends to lacerate the gums and separates them from the teeth is erroneous. The oftener they are brushed the better, provided always that a moderately soft brush be used. The teeth should, of course, be cleaned inside and out; many people seem to think that as long as they clean those teeth or those parts of the teeth which are seen, they have done all that is necessary. The use of some simple tooth-powder is to be commended. When there is a tendency to decay tincture of myrrh often proves of much value.

The habit of taking very hot substances into the mouth should be avoided, as the heat may crack the enamel. On the other hand, the practice of sucking ice and subjecting them to the other extreme of temperature is equally to be deprecated. No one who has the slightest respect for his teeth would use them as nut-crackers. Smoking, but more especially chewing, tobacco is bad for the teeth. It should be remembered that the preservation of the teeth is in a great measure dependent on





MEDULLA OBLONGATA AND SPINAL CORD. (*From behind.*)

- | | | |
|----------------|--|---|
| A. Upper half. | | C. Section at middle of cervical portion. |
| B. Lower half. | | D. Section at dorsal portion. |
| | | E. Section at lumbar portion. |

the condition of the health, and this should accordingly be maintained in the highest possible state of integrity by the use of plain nourishing food, cold bathing or sponging, and early or regular hours.

TYPHOID, TYPHUS, AND OTHER FEVERS.

By the term "pyrexia," or fever, we mean that general condition of the system which accompanies, and is an essential constitution of, all fevers. Its existence is indicated by the combination of certain symptoms which are familiar enough to most of us. A high temperature, a quick pulse, a dry skin, and intense thirst are phenomena common to many diseases, and when they are present we say the patient is feverish, or that he is suffering from fever. In some diseases, such, for example, as small-pox and typhus fever, these symptoms apparently constitute the essence of the complaint, whilst in others, as, for example, inflammation of the lungs, they are evidently caused by, and are dependent on, a disorder or derangement of some particular portion of the body. In the former case, we say the fever is "primary," or "idiopathic," whilst in the latter, it is "secondary" or "symptomatic." All the complaints which we commonly call "fevers" belong to the first of these two divisions.

It is absolutely necessary that we should devote some attention to the consideration of fever regarded in its abstract relations before we can hope to study with advantage any particular fever, such as typhus, or typhoid, or small-pox. It is to fever in general that the following remarks chiefly apply, but we shall have frequently, in illustration of our subject, to refer to particular diseases. Fever is usually ushered in by certain "premonitory" or warning symptoms. At first there is a condition of general *malaise*. It is not very easy to say exactly what we mean by this term, but that is a matter of comparatively little importance, as every one must have personally experienced this condition at some time or other. The patient feels that there has been some departure from his usual state of health. He is weak, "seedy," "out of sorts," and is conscious of a disinclination for any active employment, and of a loss of interest in his accustomed pursuits. Sometimes there is a sense of lassitude or weariness attended with yawning or stretching. The patient is apt to be affected with disturbed sleep, mental confusion or debility, and depression of spirits, but not unfrequently he complains of nothing but a vague uneasiness or feeling of discomfort, which he is unable to refer to any particular part, or to ascribe to any special cause. These symptoms are exceedingly variable in degree and duration, sometimes continuing for several days, sometimes only for a few hours, and occasionally they are quite wanting.

Sometimes the occurrence of a "rigor," or shivering fit, is the first decided indication the patient has of something being wrong. The onset of this condition is not unfrequently abrupt and striking, the patient passing into it at once from the slight and scarcely appreciable disorder of the preliminary stage, or even from a state of seeming health. Sometimes, on the contrary, the chill is so slight, and is so intimately associated with the premonitory symptoms of which we have spoken, that it is impossible to decide on the exact time of its occurrence. In some cases

there is simply a greater sensitiveness of the surface to the impression of cold, so that a current of cool air, or the contact of a cold body, produces a feeling of chilliness which runs momentarily through the frame, and then subsides. The sense of cold, however, is usually more permanent, and quite independent of surrounding objects. It begins most commonly in the back, and extends to the limbs and over the body, producing chattering of the teeth, and sometimes universal tremor and shaking, and this may occur although the patient may be near the fire, or covered with blankets in bed. In some fevers the rigors are more intense, and of far more constant occurrence than in others. In small-pox they are definite and prolonged, and in typhus fever they are frequently well marked. In scarlet fever, diphtheria, measles, and acute dysentery, there may be a distinct rigor or only a passing sensation of chilliness. Typhoid fever usually commences insidiously, but in the cases in which the onset is sudden, a shivering fit is not of unfrequent occurrence. The cold stage of ague may be said to be composed of a succession of rigors. It is not improbable that shivering fits are induced more readily in some constitutions than in others. The mere snipping of a blister, an operation which it is needless to say is perfectly painless, will, in many people so far throw the nervous system off its balance, as to produce a rigor. Some individuals are so delicately organised that they can never pass water in the open air without experiencing a transitory feeling of chilliness.

It is often said that the rigor announces the entrance of the poison into the system, but this is obviously incorrect; for example, a person is brought in contact with a patient suffering from small-pox, but it is not till twelve or thirteen days after that he has a rigor, and the disease declares itself.

It would be no easy matter to persuade the patient that at the very time the rigor is at its height, and he is shivering with cold, his temperature is above the normal, and his body much hotter than it has been for weeks and months past, and yet such is the case. In children the place of the rigor is often taken by a convulsion. A convulsion not unnaturally causes considerable alarm and anxiety to the friends and relatives, but it should always be remembered that in the case of children it, at the commencement of an acute illness, means no more than does a shivering fit in an adult.

First and foremost among the conditions which indicate the existence of fever is an elevation of temperature. Without increased heat of the body fever cannot exist; elevation of temperature is the essence of fever. Formerly we judged of the temperature of the body by the hand, now, by means of the thermometer, we are enabled to estimate it accurately, and record it numerically. We used to speak of a patient being a "little feverish," or perhaps of his having a "high fever," but now we prefer to say that he has a temperature of 100° or 105° , or whatever it may be. The temperature is often of the greatest service in enabling us to determine the nature of the fever from which the patient is suffering, or, this being known, to detect the existence of complications or other changes in the patient's condition. In some acute diseases the range of temperature is very characteristic. Thus, in the different varieties of ague, the temperature suddenly and speedily rises to 105° or 106° Fahr., and then with equal rapidity returns to the normal, there

to remain until shortly before the return of another paroxysm. The temperature in some fevers is much higher than in others. For example, in an ordinary case of measles it seldom rises above 103° , but in scarlet fever it may reach 104° , or nearly 105° on the first day. When the temperature in any fever reaches 105° the case is serious, and if it remains long above 106° the patient is in imminent peril. Until within the last few years a continued temperature of 107° always proved fatal; but nowadays, by the use of the cold bath, we not unfrequently succeed in reducing the fever and saving the life of the patient.

Fever is almost always accompanied by an increase in the rapidity of the heart's action, and consequently by quickening of the pulse. It is then laid down as a rule that a rise of one degree in the temperature of the body corresponds to an increase of ten beats of the pulse in the minute, and this is, in the main, correct. In some fevers the pulse nearly always becomes very rapid. Thus, in scarlet fever it is often remarkably frequent. In this disease it may rise in the case of children to 160 on the first day of the illness. In typhoid fever a pulse of 130 is of serious import, and in typhus fever death almost always ensues when it exceeds 150.

A harsh, dry, burning heat of the skin is one of the symptoms of fever. A moist skin seldom gives the same sensation of extreme heat as is experienced when the skin is dry. In rheumatic fever or acute rheumatism the whole of the body is often bathed in perspiration, even when the patient's temperature is three or four degrees above the normal.

Headache is sometimes present in fever, but not always. In most cases it is felt in the region of the forehead; in fact, headache, unless dependent on some disease of the head itself, is nearly always frontal. It is a common accompaniment of the hot stage of ague, and is usually very intense in small-pox and typhus fever, more particularly in the latter disease.

Fever is often accompanied by pain, sometimes confined to one particular part of the body, but frequently not localised. In many fevers pain in the back is common, and in small-pox it is one of the most prominent of the early symptoms.

Confusion of ideas, or even distinct delirium, is not an uncommon result of fever. Frequently it shows itself at night only, or it may be perceived that the patient wanders a little on awaking from disturbed sleep. In typhus fever it is very common, particularly between the fourth and the eighth days. In this disease it varies very much in character, and may be active and maniacal, or low and muttering. Much active excitement is not very common, but extreme degrees of it are occasionally seen, the patient praying, bawling, or blaspheming, according to his habitual turn of mind. Very commonly the patient lies talking quietly to himself about matters which interested him at the time of his seizure, or on subjects suggested by what is going on, or what he supposes to be going on, around him. Sometimes in his delirium the patient may labour under the delusion that an attempt is being made to poison him, and acting upon this impression he may positively refuse to take nourishment of any kind. Patients will often tell you after their recovery that the period of delirium was to them a time of utter confusion, not only as regards time, and place, and people, but even respecting personal identity. Occasionally the patient

fancies that he is two or three different people, each of whom is suffering from inconceivable misery or torture.

Loss of appetite and constipation are common accompaniments of fever. In typhus the loathing for food may be so marked that it may be found necessary for the maintenance of life to feed the patient by the bowel. In rheumatic fever, curiously enough, the appetite is often retained. The diarrhœa, which is so prominent a symptom in typhoid fever, is due to ulceration of the bowel, and is consequently not an exception to the rule that fever is accompanied by constipation.

The general appearance is in some fevers so characteristic that to the practised eye a single glance may be sufficient to determine the nature of the complaint. This is especially the case in typhus fever, where the general aspect is so peculiar that it frequently forms an important element in deciding on the nature of a doubtful case.

Weakness and loss of weight are necessary concomitants of long-continued fever. It should always be remembered that fever does not mean strength, but weakness. Many people seem to imagine that fever means power.

In many fevers peculiar and characteristic odours are exhaled from the body of the patient. A practised nose would instantly detect the presence of a case of small-pox in a ward. The copious sweat in rheumatic fever has a strong acrid odour. The smell from the motions is in some diseases almost insupportable. This is especially the case in acute dysentery, the foetid, even cadaverous, odour filling not only the room, but the whole house.

Certain terms are applied to different varieties of fevers, according to the course pursued by the temperature. When the temperature rises, and remains elevated until the termination of the illness or the establishment of convalescence, the fever is said to be a "continued" fever. Most of our common fevers, such as scarlet fever, measles, and small-pox, are continued fevers. When the fever comes on in paroxysms—first rising, then falling to the normal, then rising again, and so on—the fever is said to be an "intermittent" fever. Ague affords a typical example of an intermittent fever. When the temperature first rises, then falls nearly, though not quite, to the normal, then rises again, and so on, the fever is said to be a "remittent" fever. Typhoid fever towards its termination is essentially a remittent fever (*vide* CHART, p. 550). In a remittent fever the temperature in the interval of the paroxysms falls, but does not return to the normal, whilst in an intermittent fever it falls quite to the normal. In an intermittent fever there are periods at which the patient is quite free from fever; in a remittent fever, his fever never leaves him until the termination of his illness, although at certain times it is less marked than at others.

Hectic fever is that form of fever which supervenes when there is an habitual drain upon the system beyond what the nutriment taken in can supply and counterbalance. It is commonly met with in cases in which there is extensive formation and discharge of matter going on in some part of the body. It is a usual accompaniment of many chronic surgical complaints, such, for example, as a diseased joint with an open sore; and is sometimes met with in young mothers who have suckled their children too long. Its progress is often very insidious, but its main features are elevation of temperature, an abiding frequency of pulse, alternations of

chilliness with heat and flushing, followed by perspiration, and a gradual wasting of the body, accompanied by progressive debility. The temperature is usually remittent, there being a period of remission and a period of exacerbation occurring once, and sometimes twice, in the twenty-four hours.

Certain fevers, such as measles, scarlet fever, small pox, typhus, &c., are, as we know, generally spoken of as infectious diseases, that is they originate, or are believed to originate, through the infection of the system with certain poisonous matters. The poisons which give rise to these diseases differ from ordinary poisons chiefly in the fact that they can reproduce themselves under favourable conditions to an endless degree. For example, a child becomes infected with scarlet fever, this child can communicate the disease to ten or more people, and each of these to ten more in turn, and so on, so that from one child the fever may spread to 10, 100, 1,000, or 10,000 people. We find striking illustrations of this fact in the devastating scourges which at different periods in the world's history have spread over the surface of the globe. Infectious diseases have often destroyed the army of the conqueror, and have been the means of removing whole races of mankind from the earth. It is supposed by many students of ancient history that the prevalence of infectious diseases played a prominent part in the production of the fall of the might and civilisation of Greece and Rome. In former times epidemics of fever appear to have raged with much greater vigour than those which we nowadays are accustomed to witness. Thus we learn that in the middle of the fourteenth century an epidemic of fever, which occurred in Venice, carried off more than three-quarters of the inhabitants, and that the remainder escaped death only by flying to the islands. It is said that during the same epidemic more than a million lives fell a prey to the disease in Germany alone, and that in Italy scarcely the half of the inhabitants were left. Even at the present day the mortality from fevers is something enormous. It has been calculated that all the other mighty casualties of nature, such as earthquakes, volcanic eruptions, mountain avalanches, hurricanes, and inundations by sea, have never, in the whole of the world's history, destroyed even approximately half as many lives as a single ordinarily extensive epidemic. Even in our most sanguinary wars the devastation caused by the scientific instruments of death has been trifling compared with the mortality which has followed the outbreak of an epidemic of fever in the armies.

The causes which have operated to modify the severity of modern epidemics are well worthy of our best study and consideration. It is sometimes said that there has been a change in the type of disease, but it is infinitely more probable that the advance of civilisation, and the improved sanitary conditions under which we live, have been the important factors. When we consider how little was done during antiquity and the Middle Ages to stamp out disease and arrest the progress of pestilences, our only wonder is that the mortality, great as it was, was not considerably greater. It is probable that people owed their protection rather to the difficulties of travelling, and the slowness of communication, than to any efforts of their own.

It is now usually considered that most fevers are caused by the entrance of some very minute organism into the system. This view, at all events, in a modified

form, is by no means of modern origin, for in the days of ancient Rome the physicians considered that many diseases were caused by the presence of minute animals in the body. In the Middle Ages it was imagined that these animals could be seen flying through the air in dense clouds, and it was seriously proposed to blow trumpets and fire guns, and make a great noise during the prevalence of an epidemic, so as to frighten them away. It is almost needless to say that the organisms which nowadays are supposed to be instrumental in the production of fever are very minute, and that they can be seen only with high powers of the microscope.

A very marked peculiarity of the infectious diseases is what is technically known as their *specificness*—that is to say, that the same poison always gives rise to the same disease. We can best illustrate this by an example. A man may be exposed to cold and may be none the worse for it, or the result may be that he gets a cold in his head, or a cold in his chest, or he suffers from colic or diarrhœa, or tooth-ache, or rheumatism, or in fact any one of a great number of complaints. But should the same man be exposed to the poison of scarlet fever, he either catches that disease or nothing. It never, by any chance, results in small-pox or typhus fever, or any of the other acute diseases, and this is what we mean when we say a fever is *specific*.

In all fevers there is a certain incubative period, or period of incubation during which the poison remains latent in the system without producing any effects. You sit up to-night with a person suffering from a fever, and you want to know how long it will be before you can make sure that you have not caught the complaint. Unfortunately, this is a question which is not always very easily answered, for the period of incubation is in many fevers very variable. In some cases all we can say is that it may be only a few days, or as many weeks. Small-pox is the fever respecting which we can speak with the greatest certainty, its period of latency being fourteen days, or more accurately thirteen times twenty-four hours, from the moment of taking the disease. In some fevers—typhoid, for example—it is difficult to fix the exact date of the infection, and often quite as difficult to fix that of the commencement of the disease.

Most of the idiopathic fevers are characterised by a rash or skin eruption. The appearance of this rash usually enables us readily to distinguish one fever from another. The rash does not appear in all fevers on the same day of the disease—that is, at the same time from the commencement of the illness. In chicken-pox the rash comes out on the first day, in scarlet fever on the second, in small-pox on the third day, in measles on the fourth day, in typhus fever on the fifth day, and in typhoid fever about the end of the first week. This is the general rule, to which, however, there are a good many exceptions. Thus, the rash of measles may come out on the third day or the fifth day, or even the first day, of illness. Some rashes are much more punctual in their time of appearance than others; for instance, typhus nearly always comes out on the fifth day. Then, again, the rash in all fevers does not first appear in the same situation. In chicken-pox it may appear on any part of the body; in scarlet fever it sometimes comes out all over at once, but usually at first on the side of the neck and upper part of the chest; in small-pox it is first observed on

When the temperature reaches 103° the fever is moderately severe.

"	"	104°	"	severe.
"	"	105°	"	very severe.
"	"	106°	"	dangerous.
"	"	107°	"	usually fatal.

When the skin is moist it is a good sign. When it is moist, but also sodden, like the hands of a washerwoman, it indicates great relaxation of the system, and is a bad sign. When, in addition to the skin being sodden, it is dusky, that is a very bad sign, indicating as it does considerable depression of the heart's action.

A fever may terminate in any one of several different ways. When the temperature falls suddenly, the termination is said to be by "crisis." In several fevers there are what may be fairly called critical days. In typhus fever, the seventh and fourteenth days may be regarded as critical. Should the temperature fall considerably on the seventh day, this is a favourable sign, but should it fail to do so, the fever pursues a course of at least six days of increased danger. In typhoid fever it is not uncommon for a change in the course of the temperature to be noticed about the seventh day. When the temperature returns gradually to the normal, the disease is said to terminate by "lysis." Not uncommonly we get a combination of termination by lysis and crisis, the temperature falling in an irregular manner by jerks.

The mortality varies considerably in different fevers. For instance, death from chicken-pox is a rarity, whilst in cholera the mortality in some epidemics is as high as 70 or 80 per cent.

The importance of a rational treatment of fever cannot be over-estimated.

It must always be borne in mind that we have no specific remedy for any of our common fevers. We cannot hope to cure them, and in many cases the object of the treatment is simply to conduct the fever to a favourable termination, and to ward off any intercurrent disease. Nevertheless there are certain drugs which, although not curative in their action, may be administered with advantage, as there is reason to believe that they modify the course of the disease.

First and foremost among these is aconite. Aconite is indicated in many affections marked by elevation of temperature, a rapid strong pulse, dry heat of skin, chills followed by burning heat, restlessness, constipation, and scanty high-coloured urine. It is doubtful whether its administration will shorten the fever of the acute specific diseases, such as scarlet fever, measles, &c., but it has a beneficial influence in these complaints, soothing the nervous system, and favouring sleep by inducing free perspiration. In typhus and typhoid fever aconite probably does but little good. It should be administered in the form of the aconite mixture (Pr. 38). Unless the temperature, as measured by the thermometer, falls during the twenty-four hours immediately succeeding the administration of the remedy, it will in all probability do but little good.

Tincture of gelseminum proves useful in many fevers, its action in some respects resembling that of aconite. It has been used with success in scarlatina, especially when occurring in children, and in the early stage of measles, when there is a thin

watery discharge from the nose. Gelseminum is also indicated when the fever is of a remittent character. The mixture (Pr. 41) may be used.

In the early stage of many fevers, but especially in typhoid fever, baptisia has been found useful. It may be given in any febrile disease which assumes a low or "typhoid" condition. It has been found to succeed in some cases in which aconite has failed. The dose of the tincture is a drop in a tea-spoonful of water given every ten minutes for the first hour, and subsequently hourly.

In all cases of fever it is very necessary to confine the patient to bed. The sick-room should be large and airy, and the less furniture it contains the better. In infectious diseases the carpet, curtains, and other superfluous articles, should be removed. Proper ventilation should be ensured by keeping the windows open for an inch or two at the top. Draughts should be avoided. Except in the height of summer, it is advisable to have a fire constantly burning.

The greatest attention must be paid to cleanliness; and stools, soiled linen, &c., should be removed without a moment's delay. Any smell or closeness in a sick-room is a sign of bad nursing.

The room should be kept as quiet as possible, and the fewer visitors the better. Worry and anxiety are very bad for the patient.

In all cases plenty of nourishment should be given. It is generally required in small quantities and frequently. The food should always be light and nutritious. Beef-tea, mutton broth, chicken or veal broth, arrowroot, gruel, eggs, milk, and jellies, are all useful. A variety may be found in vermicelli in beef-tea, mutton broth with rice or bits of toast, eggs in custard, or beaten up with milk, or with wine, and blanc-mange of isinglass or ground rice.

It is very essential to have these things prepared nicely, for sick people are often very fanciful. Try this method of making mutton broth:—One pound of the scrag end of neck of mutton, two pints of water, pepper, and salt, half a pound of potatoes, or some pearl barley. Put the mutton into a stewpan, pour the water over it, pepper and salt. When it boils, skim carefully; cover the pan, and let it simmer gently for an hour. Strain it, let it get cold, and then remove all the fat. When required for use, add some pearl barley or potatoes in the following manner:—Boil the potatoes, mash them very smoothly so that no lumps remain. Put the potatoes into a pan and gradually add the mutton broth, stirring it till it is well mixed and smooth; let it simmer for five minutes and serve with fried bread.

Beef-tea with oatmeal is a very good combination. Mix two table-spoonfuls of oatmeal very smooth with two spoonfuls of cold water, then add a pint of strong beef-tea. Boil together for five or six minutes, stirring it well all the time. Strain it through a sieve and serve.

The patient is nearly always thirsty, and he should have enough to drink to satisfy his thirst. Large draughts impair digestion and set up diarrhoea. The best plan is to give small quantities frequently. Very commonly nothing is relished more than iced water, and it is a good plan to give the patient little pieces of ice to suck. Lemonade, soda water, currant water, raspberry vinegar, and cold weak tea, with or without sugar, are useful. The following makes a nice drink:—Pare the rind of three lemons as thin as possible, add one quart of boiling water, and a

quarter of an ounce of isinglass. Let them stand till next day covered, then squeeze the juice of eight lemons upon half a pound of lump sugar; when the sugar is dissolved pour the lemon and water upon it, mix all well together, strain, and it is ready for use. The following is a simpler method:—Well rub two or three lumps of sugar on the rind of a lemon, squeeze out the juice, and add to it half a pint or a pint of cold or iced water, or, better still, a bottle of soda water. Acid or acid and bitter drinks often prove very grateful. A weak infusion of cascarilla with a few drops of hydrochloric or nitric acid will be found useful. A glass of bitter may be given with advantage if there is a desire for it.

One of the most difficult problems to be solved in the treatment of fever is the necessity for the administration of stimulants, and the quantity in which it should be given. Great as are the beneficial effects of alcohol in many diseases, it should always be borne in mind that it can do harm as well as good. Many people do very well without any stimulant at all, and in no instance should it be given unless there is some special indication for its employment. At the two extremes of life the powers of the body are easily depressed, and in young children and old people stimulants are accordingly called for early, and must be freely used. In the aged especially it is of great importance to anticipate prostration by the early employment of alcohol, for this condition once established is with difficulty overcome. Young children prostrate with fever take stimulants with benefit, even in large quantities. In a disease like typhus fever, in which the depression is very great, stimulants are often called for early. The following practical rules will be found useful:—

RULES FOR THE USE OF STIMULANTS IN FEVER.

1. If, after stimulants, the tongue becomes more dry and baked, they are doing harm; if the tongue becomes moist, they are doing good.
2. If the pulse becomes quicker, they are doing harm; if it becomes slower, they are doing good.
3. If the skin becomes hot and parched, they are doing harm; if it becomes more comfortably moist, they are doing good.
4. If the breathing becomes more hurried, they are doing harm; if it becomes more tranquil, they are doing good.
5. If sleep is produced, and delirium quieted, they are doing good.

It should always be remembered that it is not the nature of the disease which is the indication for stimulant, but the condition of the patient. People sometimes ask how much brandy should be given in such and such a fever, but it is a question which it is simply impossible to answer.

The kind of alcoholic stimulant employed is not a matter of any very great importance provided always that its quality is good. The patient's taste should, if possible, be consulted; and brandy, gin, whisky, port, or sherry may be given. As a rule, we should prefer port wine or brandy. Sometimes a combination, such as the following, answers better than anything:—Scald some new milk, but do not let it boil. It should be put in a jug, and the jug should stand in boiling water. When the surface looks filmy, it is sufficiently done, and should be put away in a cool place in the same vessel. When quite cool, beat up a fresh egg with a fork in a tumbler, with a lump of sugar; beat quite to a froth, add a dessert-spoonful of brandy, and

fill up the tumbler with scalded milk. In some cases dry champagne forms an admirable stimulant. In whatever form the stimulant is given, it must be of the best. It is almost impossible to lay down any general rules as to the quantity. The rules we have given will form the best guide, and as long as the alcohol does good the quantity should be increased. In some cases a couple of ounces of port a day will be enough, whilst in others half a pint of brandy in the course of the twenty-four hours will not be too much. When stimulants are required at all in fevers, they should be given frequently, a little every hour, and not a large quantity two or three times a day. It is a golden rule never to give more stimulant than is absolutely necessary.

Restlessness is very detrimental to the welfare of the patient, and sleep may have to be ensured by the use of opium, chloral, or bromide of potassium. In fever the two great dangers are from exhaustion of the nervous system and enfeeblement of the heart's action. The nervous system is very quickly exhausted by want of sleep, and more especially by delirium. The appetite, digestion, and assimilation are greatly influenced by sleep. This influence is well seen in ulcers on the surface of the body. After a restless night they are painful, throbbing, inflamed, and swollen, and apt to spread, whilst after a refreshing sleep they have a much more healthy appearance. In fever want of sleep produces either noisy and furious delirium, as is frequently seen in typhus, or wandering and muttering, with picking of the bed-clothes, twitching of the muscles, and great prostration. In either case opium, judiciously given, may save an almost hopeless life. In delirium of the furious kind it is well to combine the opium with tartar emetic, as this combination calms the excitement and produces sleep more speedily and effectually than opium given alone. Three or four drops of laudanum and a drachm of antimonial wine should be given every two hours till tranquillity and sleep are ensured. In the low muttering delirium, with muscular tremors, dry skin, and prostration, laudanum may be given with signal benefit. A drachm of laudanum is mixed with four ounces of water, and of this a tea-spoonful is given every five or ten minutes till three or four doses have been administered. If by that time the patient is not asleep, the medicine should be discontinued for half an hour; then, if sleep does not come on, a few more doses should be given in the same way. This method often ensures calm, refreshing, invigorating sleep, lasting several hours, out of which the patient wakes free from wandering, refreshed, the tongue moister, the appetite and digestion improved, and the skin comfortably moist. The administration of laudanum, by producing refreshing sleep, often tides a patient over this critical stage with far less consumption of alcoholic stimulant than would otherwise have been required.

The great advantage of giving opium in small doses and frequently is, that the desired result is obtained by the use of the minimum quantity. It must be admitted, however, that sometimes a single large or moderate dose of opium will answer better. Opium is especially indicated in cases in which there is either diarrhoea or a dry skin. Very frequently a combination of opium and chloral will act much more efficaciously than either drug alone. A single dose of fifteen grains of chloral and ten drops of laudanum may be given in an ounce of water. Fifteen or twenty grains of bromide of potassium may succeed in quieting the nervous system and producing sleep when the other drugs have been given in vain.

Heat and dryness of the body may be alleviated by washing the surface with soap and tepid water several times a day. In order to avoid the risk of catching cold, one part should be washed and dried and covered before another is exposed.

The lips, tongue, and gums, when dry or coated with dried mucus, should be washed and kept moistened by the application of glycerine. This greatly improves both the comfort and appearance of the patient. If the sweet taste of the glycerine is unpleasant, it may be diluted with an equal quantity of water or lemon-juice.

Delirium, such as occurs in typhus fever, may sometimes be controlled by the administration of tincture of belladonna, a tea-spoonful of the mixture (Pr. 39) being given every quarter of an hour for the first hour, and subsequently hourly.

The bowels should be opened daily, and it may be necessary to employ some mild laxative, such as castor oil. Purgatives should be used with care, as they are apt to set up obstinate diarrhoea.

When the patient is drowsy, care should be taken to see that he passes his water at proper intervals.

There are several ways in which the abnormal temperature of the body may be reduced. Large doses of quinine may be advantageously used for this purpose. The cold bath has been extensively employed in Germany for the reduction of temperature, and the results have been extremely satisfactory. These methods of treatment are described more fully under the head of typhoid fever (*see* TYPHOID FEVER). The cold pack often proves of the greatest service in the acute specific diseases. It has long been employed in scarlet fever, and should be used from the beginning, and throughout the disease. In moderate attacks it is sufficient to pack the patient from thirty to fifty minutes, but if the rash comes out slowly, imperfectly, and of a dull red colour, or if the patient is restless and wandering, the packing must be continued an hour or two longer, and may be repeated three or four times a day. This treatment develops the rash, greatly reduces the fever, quiets the pulse, renders the skin moist and comfortable, and abates the restlessness and wandering. A short time after the application of the wet sheet, a patient previously restless and wandering commonly falls into a quiet, refreshing sleep, and awakes calm and free from delirium. The influence on the pulse and temperature is also very striking, the former in a few hours falling fifteen to twenty beats in the minute. The packing is especially indicated on suppression or recession of the rash, when serious symptoms are apt to arise; the cold sheet will then bring out a brilliant rash, generally followed by immediate improvement of the patient's condition. It may be mentioned incidentally that in scarlet fever a cold wet compress, renewed every three hours, may be advantageously worn round the throat, and if, on the decline of the fever, the tonsils remain large, this application, renewed less frequently, or applied only at night, may be continued till these morbid conditions are got rid of. This is a digression. It should be stated that cold packing in the reduction of temperature proves equally beneficial in measles, small-pox, and the other fevers.

Alcohol reduces the temperature slightly in fever, but its efficacy in this respect is so insignificant, and doses so enormous must be taken to produce even trifling results, that it is useless to give it solely with this intention.

In most infectious diseases it is necessary to isolate the patient. In severe cases two people should be appointed to act as nurses, one for day and the other for night duty. They should confine themselves strictly to the apartments of the patient, and should not communicate with other inmates of the house. It is a good plan to give up the whole of the top floor for the sole use of the patient and his attendants. A large sheet should be hung outside the door of the sick-chamber, so as to completely cover the doorway. The sheet should be dipped several times a-day in a pail of carbolic acid and water (in the proportion of one part to eight) kept outside for the purpose. A sheet should also be suspended at the top of the stairs. Food, &c., should be brought as far as the sheet and there left, the nurse being called to take it in. It is only by the greatest care that many diseases can be prevented from spreading.

After the patient has recovered from any infectious disease the room or rooms which he has occupied should be thoroughly disinfected. The woodwork should be washed with soft soap and water, to which carbolic acid, in the proportion of one pint of the common liquid to three or four gallons of water has been added. The room should be fumigated for three or four hours by means of burning sulphur. The doors and windows and the chimney should be closed, and a pound of sulphur should be put in a metal dish, covered with spirit, and then lighted. After three hours the doors and windows should be opened and kept open for from twenty-four to thirty-six hours. It is essential that plenty of sulphur should be used, and when the room is large it is desirable to have some at each end. Any old iron pot will do to contain it. The fumes from the burning sulphur are very irritating, and care must be taken to avoid inhaling them.

The soiled linen and bedclothes should be boiled for some hours in water to which chloride of lime or carbolic acid has been added. Mattresses and clothes which cannot be washed may be disinfected by baking them in a hot chamber, or by subjecting them to the fumes of burning sulphur. Hair mattresses should be taken to pieces before being fumigated.

During the stage of convalescence much of the day should be spent out of doors, and a change of air should be resorted to as soon as the patient is able to bear the journey. Attention should be paid to clothing, and flannel should be worn next the skin. The hours of rest should be long, and sleep may be indulged in with advantage for a short time during the afternoon. Every care should be taken to ensure a good night's rest. The supper should be light, and should be taken one or two hours before going to bed. Plenty of good plain food should be eaten at regular hours. Stimulants are required, if at all, in small quantities, and should be taken only with meals. Sea-bathing will be found of the greatest possible service. The bath should be taken about three hours after breakfast. At first the patient should stay in the water for only a very few minutes. In addition to the sea-bath a cold sponge-bath should be taken every morning on getting out of bed. Tonics, such as iron, quinine, and cod-liver oil may sometimes be used with advantage. It should always be remembered that a patient during convalescence is in much the same condition as a child. Convalescence is a period, if not of growth, of great repair—a condition analogous to growth.

Sometimes after a bad attack of fever the hair comes out, and shows very little inclination to grow again. It occasionally happens that the scalp is left almost as bare as a billiard ball. This is a serious matter, especially in the case of young ladies. The hair not only forms the natural covering of the head, and protects it from cold and heat, but adds considerably to the personal appearance. A good crop of hair is by no means to be despised. It is to be feared that many doctors consider this is a very trivial subject, and one quite beneath their notice. This is to be regretted, for the result is that advice is sought from hair-dressers and others, who, however good their intentions may be, are necessarily ignorant, not only of the properties of the drugs which they use, but of the structure and functions of the skin which they profess to treat.

Some years ago, in the pages of the *Lancet*, the case was related of a gentleman who, having lost nearly all his hair from a severe attack of fever, consulted a French physician of great reputation as a hair-restorer. His prescription was a drachm of the homœopathic tincture of phosphorus mixed with an ounce of castor oil, the scalp to be rubbed with the preparation three times a week, after having been previously thoroughly cleansed with warm water without soap. This is a most excellent method of treatment, but there are certain accessory measures which might be employed with advantage. In the first place, any short, straggling, or colourless hairs on the scalp should be cut off quite short with a pair of sharp scissors, then a kind of skull-cap should be made of oil silk, so as to fit closely round the head just above the ears. Three times a week a large hot bread poultice should be applied to the head under this skull-cap. The patient should sleep in it, and on the following morning, after the scalp has been washed with warm water and dried with a soft towel, the phosphorus and castor-oil preparation should be thoroughly rubbed in for half an hour. This local application should be combined with the internal administration of phosphorus, a capsule (Pr. 54) being taken every four hours. In obstinate cases it may be some weeks, or even months, before one's efforts are crowned with success. Very frequently the new hair is a shade or two darker than the old.

We may mention incidentally that when the hair has suddenly become grey from excessive grief or mental anxiety, the use of phosphorus both internally and externally will sometimes quickly restore its colour.

Typhoid Fever.—This is a disease which has received many names. It was called "typhoid," and "abdominal typhus," from its supposed resemblance to typhus or gaol fever. In many parts of the country it is known as "low fever," or "slow fever," from its duration, and in other places as "autumnal fever," or "fall fever," from the time of the year at which it is most prevalent. The term "enteric fever" was applied to it from the fact of a certain portion of the bowel or intestine being always found diseased in this disorder. Gastric fever is a misnomer, for there is never any organic disease of the stomach. The name which we have placed at the head of this article is the one most commonly used.

Respecting the early history of typhoid fever we know very little. There is no reason to suppose that it is a new disease, although it is probable that in former

times it was less prevalent than now. For many years it was confounded with typhus fever, and this accounts for our ignorance of its former history. Typhus and typhoid are two totally distinct diseases; in reality, there is very little relationship between them. Typhus fever is far more closely allied to small-pox, measles, and scarlet fever, than to typhoid; and typhoid, in its mode of causation and propagation, bears a greater resemblance to cholera and dysentery than to typhus.

Typhus fever is contagious, typhoid is not. Whoever touches a person suffering from typhus fever runs a certain amount of risk of catching it. Doctors and nurses frequently suffer from this disease, when brought in contact with typhus patients. In Ireland, in the year 1847, no less than 500 medical men, or about one-fifth of the entire number, suffered from typhus, and of these 127 died. During the Crimean War, it is said that more than 80 surgeons died from this disease. In hospitals, unless those suffering from the fever are strictly isolated, it spreads rapidly. In the case of typhoid all this is exactly the reverse. You may spend your whole day by the bedside without running any risk of catching it. Physicians and nurses do not suffer from it more frequently than other people. In our hospitals the typhoid patients are placed in the general wards, and no steps are taken to isolate them, and yet it never spreads from bed to bed. At the London Fever Hospital, in 14½ years, 2,506 patients with typhoid fever were treated, and yet in that time only 8 cases originated in the hospital.

Sometimes typhoid fever may break out in a hospital, but that does not prove that it is contagious. Residence in a hospital does not make you disease-proof. Some ten years ago a number of cases originated in the hospital at Basle. The disease was contracted there, and many people said that it must have been caught from the typhoid patients in the wards. But curiously enough the majority of the cases occurred in people who had nothing to do with the wards, and who had no communication, direct or indirect, with the typhoid patients. For instance, there was a man who had just recovered from small-pox in a ward which had been strictly isolated. He was attacked with typhoid fever immediately on his discharge, and he died from it. It was obvious that it must have been contracted in the hospital. Then, again, the apothecary and the engineer, and several washerwomen and kitchenmaids, who never, by any chance, entered the wards, were attacked in the same way. An examination disclosed the fact that in one portion of the building there was a defect in the drainage, and this, there is no doubt, was the cause of a good deal of the mischief. It was found that there was a wooden pipe running from the roof to the sewer, and this passed close by two of the rooms in which typhoid had most frequently occurred. In the sewer just where the pipe entered there was a fault in its construction. It turned suddenly at a right angle, so that all the refuse matters accumulated at this spot, and the foul gas which they gave off passed up the wooden pipe. Steps were taken to remove the accumulation, and to have the pipes thoroughly and frequently flushed, and from that time there was a considerable decrease in the number of typhoid cases which broke out in the hospital.

Such instances are by no means uncommon. Only a year or two ago one of the largest and most popular colleges in Cambridge was almost decimated by

typhoid fever, for the very simple reason that in its new buildings, which had been erected almost regardless of cost, the pipes had been so constructed that the whole of the sewer system of the town found a ventilating shaft for itself through the bedrooms of the undergraduates. If, then, typhoid fever is not contagious, how does it originate? We know it is not given off from marshes as ague is. At one time it was thought to be due to the decomposition of animal substances, and the term "pythogenic fever," signifying "derived from putrefaction," was accordingly proposed for it. But it is now well known that it is not all decomposing animal matter that will produce typhoid—it must consist of human excrement. And even this is not the whole truth, for the excrement must be derived from a person suffering from typhoid fever. Fresh typhoid excrement is probably harmless, but even the minutest portion of a decomposing typhoid stool will, if taken into the system rapidly, set up the disease. But how, it may be asked, could even the very smallest portion of a decomposing typhoid stool get into our bodies? Who would swallow it? The idea is utterly abhorrent. Unfortunately it is not very difficult, and when we get typhoid we may be pretty certain, horrible as it may appear, that we have been eating or drinking somebody else's excrement. It is generally introduced into the system through the medium of the water. In the country the privy is often built very close to the well. Both are near the house and near each other. No particular precautions are taken to prevent the contents of the privy from soaking into the ground, and they in course of time drain into the well. Nothing very much, however, comes of it; the bad water may cause diarrhoea or may make people ill, but it won't give them typhoid. Let, however, a single typhoid stool be emptied into the privy and the mischief is done. The typhoid poison soaks into the earth, gradually develops there, and after a time manages to get washed into the well. Then typhoid fever breaks out in the house, more typhoid stools are thrown in the privy, more people drink the water and get the disease, and then there is a regular epidemic. Perhaps some wise man comes along, points out the source of the mischief, the well is shut up, and the epidemic is stamped out.

But the worst epidemics have been produced when a whole stream has been infected with the typhoid poison; such cases are by no means uncommon. The infection is easily enough effected when the fields from which the stream or aqueduct obtains its supply are manured with excrement, containing typhoid germs. We can't do better than give an example of the way in which an epidemic may be caused. In one very fatal typhoid epidemic in a town in Germany it was noticed that the fever broke out only in houses supplied with water from a certain aqueduct. Other houses close by, which happen to derive their water-supply from another source, entirely escaped. It was found on examination that a brook which passed through the court-yard of a lunatic asylum in the neighbourhood, and received its sewerage, opened into the aqueduct. It was further found that in the asylum a nurse had recently died of typhoid fever, and that her clothes had been washed in the wash-house of the asylum, and that some of the soiled linen had even been soaked in the brook itself. This was the cause of all the mischief. We should mention in connection with this subject that there is evidence to show that the typhoid poison can be destroyed by boiling the water.

In the year 1873 an epidemic of typhoid fever, in which over 200 people were attacked, broke out in London in the parishes of St. George's, Hanover Square, Marylebone, and Paddington. It was clearly proved that it was due to the contamination of the milk by the excrements of a man who had died of typhoid fever on one of the milk farms. Since this occurrence many people make a point of always having their milk scalded, and it is undoubtedly a wise precaution.

Although typhoid is, in the large majority of cases, caused by taking the poison into the system with the food or drink, there is no doubt that it may originate from the inhalation of the emanations from sewers, &c., containing typhoid stools. The possibility of infection in this manner does not prove that the poison is a gas, and the general opinion is that the infectious agent consists of minute particles suspended in the air.

Typhoid fever is a disease which attacks young people much more frequently than old. More than half the cases occur between the ages of fifteen and twenty-five. It is seen more frequently in men than in women, and, curiously enough, pregnant women and those who are suckling are seldom attacked. Unlike many other diseases, it attacks by preference the strong and the healthy, those who are suffering from chronic ailments usually escaping. It is a disease which is no respecter of persons; the high and the low, the rich and the poor, are all liable to suffer from it; but, at the same time, well-to-do people are far more frequently attacked than their poorer neighbours. From the frequency with which it prevails amongst the higher ranks of society, it would almost seem as if the habits of life, and the varied rich and plentiful diet of the more opulent classes, induced a condition of susceptibility to its influence. The largest number of cases occur in the months of September, October and November. It is probable that fatigue and exposure do much to accelerate an attack, although they are in themselves powerless to cause it.

A person who has once had typhoid fever is not very likely to suffer from it again, but second attacks of typhoid are far more common than second attacks of small-pox, measles, or scarlatina. The immunity conferred by typhoid fever is not very perfect.

We must now consider the different symptoms of typhoid fever. The attacks vary very greatly in severity; in some cases they are so severe that life is almost inevitably destroyed, whilst in others they are so trifling that the physician is left in doubt whether there was any true disease or not. Our description refers to a simple case of typhoid of moderate severity.

In the first place, there are usually certain premonitory symptoms. They are by no means characteristic, but last longer than in most other fevers. The patient has a general feeling of malaise, feels ill all over, is silent and indolent, and complains of weariness and pains in the limbs. The countenance is dull and heavy, the appetite is diminished, and the tongue swollen and furred. Sometimes there is giddiness, and usually headache, especially over the forehead. The sleep is restless and disturbed by bad dreams. Sometimes there are pains in the bowels, and diarrhoea, but not usually, unless purgatives have been taken. After a time fever sets in, often accompanied by frequent chills.

It is not always easy to say when the premonitory symptoms ceased, and the actual disease began. The best method is to consider the day on which the patient first became feverish as the first day of the actual disease. When this point cannot be definitely determined, we may reckon the commencement of the disease from the day on which the patient had to knock off work, or first took to his bed.

In some cases, however, there are no warning symptoms at all, but the disease begins suddenly in all its intensity. The patient is in the midst of his occupation, or is on a journey of business, or perhaps pleasure, when he is seized with headache, shivering, and fever, and is found to be suffering from typhoid.

In the first week of the disease proper the patient is feverish, the skin is hot and dry, and in the afternoons there are sometimes slight chills. The symptoms which were present in the premonitory stage gradually increase in intensity. The headache becomes violent, the pains in the back and joints are severe, and the patient feels very ill, and is usually obliged to remain in bed. On attempting to stand he feels dizzy and tottery. There is a great change in him, the expression of his face is altered, he is silent, unwilling to think, sleepy, and not easily roused. His sleep is disturbed by unpleasant dreams, and when in a condition between sleeping and waking he is apt to wander a little, and to be partly delirious. There is complete loss of appetite, but the patient is very thirsty. The tongue is at first moist and coated, but later on it becomes drier, and the fur disappears, leaving smooth, red streaks. Not unfrequently the nose bleeds freely at this stage. In many cases the bowels are at first confined, the diarrhoea, which is always a prominent symptom of this disease, often not appearing for a few days, or perhaps not till the end of the first week. Just at first there is nothing particular about the stools; they are brown in colour, either thickish or watery, and are passed without pain, and usually without straining. The abdomen gradually becomes swollen, tense, and tender, even on the gentlest pressure, more especially on the right side. The spleen increases in size, just as it does in ague, though not to the same extent. It may sometimes be felt under the ribs on the left side, but as a rule it is not readily made out on account of the swollen condition of the abdomen. The urine is diminished in quantity, unless the patient drinks a great deal, and it is usually of a very high colour.

In the second week the fever continues high and the condition of the patient shows how rapidly he is becoming exhausted. The headache is no longer complained of, and the patient becomes apathetic and drowsy, but does not sleep soundly. He is not inclined for conversation, but in answer to questions usually says that he is very well and ails nothing. He seldom asks for drink, but drinks freely whatever fluids are offered him. All movements are feeble and uncertain; the tongue is put out with difficulty, and only after repeated demands, and when protruded the patient often neglects to withdraw it. The tongue is now dry, red, and cracked, and in speaking is moved with such difficulty that it is no easy matter to understand what is said. The patient usually lies on his back, hardly stirring, except to pick at the bed-clothes and make other feeble movements with the hands; the eyes are half closed and he mutters unintelligibly, especially in the evenings. Sometimes patients exhibit a more irritable mental condition; they are restless; disturbed by

illusions and hallucinations, and speak in a loud voice and gesticulate violently. There is now profuse diarrhœa, there being usually from four to six motions in the twenty-four hours, and often more. The stools are commonly fluid, of a yellow-ochre or drab colour, and have a sickly offensive odour. In general appearance they somewhat resemble pea-soup, to which they are usually compared. After standing for a little while they separate into two layers, the upper a turbid brownish fluid, and the lower a light feathery-looking mass. These stools soon decompose, and if you take a little slip of red litmus paper and drop it in, it will turn blue, indicating that they are alkaline. Some medicines, such as iron, bismuth, lead, silver, and copper, darken the motion, and when these have been taken the stools will be of a dark greenish-brown or blackish colour.

From the seventh to the tenth day the rash usually makes its appearance. It is very slight, and unless care be taken it may be entirely overlooked. The spots are about the size of a pin's head, or even smaller, and are of a pale rose colour. They are few in number, usually not more than from half a dozen to a dozen being seen at once. The total number during the whole course of the disease seldom exceeds fifty. They occur most frequently on the chest and abdomen, and not uncommonly they first make their appearance just where the collar-bone joins the breast-bone. On pressing on them with the tip of the finger they disappear for a few seconds and then gradually return. They appear in successive crops, each individual spot lasting for two or three days and then slowly fading away. On the first day of the rash only two or three spots may be observed, and on the next, four or five fresh ones, and on the following day as many more. If it is desired to watch the progress of any individual spot, it may be readily identified by drawing round it a little circle of ink with a quill pen. It is said that the rash is occasionally absent all through the disease, but if carefully looked for will nearly always be found. Sometimes numerous small transparent spots containing fluid appear on the chest and abdomen. They are known as sudamina, and are caused in most cases by excessive perspiration. They are not of the slightest importance; they occur in the progress of many diseases, and must not be confounded with the characteristic rash of typhoid fever.

In the third week the symptoms continue with undiminished vigour, and even increase in intensity. The patient becomes so weak that he can no longer raise himself, but lies in a relaxed condition in the lowest part of the bed. The stupor may reach such a degree that the greatest difficulty is experienced in arousing the patient. The urine and fæces are usually passed involuntarily. Sometimes, however, the urine is not passed at all, the bladder becomes distended, and the use of an instrument may be required. It is very necessary to watch typhoid patients to see that they pass their water.

During the fourth week there is a change for the better, the temperature falls, the symptoms are alleviated, and evidences of returning interest in life appear. The motions are no longer passed involuntarily, or should this occur the patient is annoyed by it, and expresses his sorrow. The sleep soon becomes more natural, and the patient is refreshed by it. Patients who during the whole course of the disease appear to have suffered hardly at all, and who as long as they could answer always

said they were comfortable, now begin to complain of pain, and awake to a sense of their weakness and utter prostration. The face is pale and very thin and sunken, but still it wears a more natural expression. The tongue becomes moister and more movable, the motions are firmer and less frequent, and the appetite slowly returns. After the thirtieth day, in the majority of cases, no more spots appear, and the fever is over.

Thus the patient slowly passes into a state of convalescence, but his recovery is often hindered by complications, or even relapses. The fever may be readily revived by causes in themselves apparently trifling, such, for instance, as getting out of bed too soon, too early indulgence in solid food, or mental or physical exertion of all kinds. In hospitals patients convalescent for typhoid often have a return of the fever on the evening of the visiting-day if their friends have been to see them. It is to be feared that it is too often due to the surreptitious introduction of articles of food, but in some cases it may arise purely from excitement. The appetite soon returns, and the patient may be ravenously hungry. The first meal of solid food often causes a temporary rise in the temperature. If food is given too early it may produce a rupture of the bowel, and this may occur even after convalescence seems firmly established, particularly if any serious error in diet has been committed. The patient rapidly increases in weight, but it is often very long before he gets well again. Even in uncomplicated cases many months may elapse before the mental and bodily functions are completely restored to their natural condition. It has been laid down as a rule that no man can be considered fit for work for three or four months after a severe attack of typhoid.

We have already mentioned incidentally the elevation of temperature in this disease; but it is necessary that we should enter a little more fully into detail on this point. The course of the temperature is of the greatest value in determining not only the nature of the case, but its probable termination, the existence of complications, and the line of treatment, both medicinal and dietetic, to be adopted. Liebermeister, a very eminent German physician, says:—"The great practical importance of the determination of the temperature is more evident in typhoid fever than in any other febrile disease. It may well be asserted that a rational treatment of typhoid fever, without following the temperature, is not possible; and that any physician who does not make two or more observations of the temperature every day neglects his duty. The common remark, that such observations are applicable to hospital but not to private practice, has been found to be erroneous. To measure the temperature in the rectum, or even in the axilla (armpit), requires so little time that a physician who does not have the requisite leisure can hardly treat such a patient at all. Besides this, nurses sufficiently intelligent to use the thermometer are requisite for any proper treatment of these patients. A physician can really treat his patient better if he only sees him once a day, but has a good thermometrical record kept by the nurse, than if he makes several visits and does not employ the thermometer."

The nature of the disease can in typhoid fever be determined by the temperature alone, although, of course, the fact does not justify us in neglecting other symptoms. If you were to show a physician the chart of the temperature taken twice a day, he

would in most cases be able to tell you if it were typhoid fever from which the patient suffered. In well-marked simple cases of typhoid, the entire duration of the fever is from three to four weeks. This time may be conveniently divided into four periods which we shall speak of as weeks, but each of which may vary in duration from five to ten days.

During the first week the fever gradually and steadily increases in intensity.

During the second week, it is constant or stationary — that is to say, the successive morning and successive evening temperatures are almost identical.

During the third week the fever remits, that is, the successive evening temperatures remain the same, but every morning the temperature is a little lower than it was at the same hour on the previous day.

During the fourth week there is a gradual fall in both morning and evening temperature until at last the patient is feverish only in the evening.

The accompanying chart serves to illustrate these facts. It is not taken from any individual cases, but gives the average course of the temperature in a large number of cases, and is, therefore, to some extent diagrammatic. For the sake of simplicity only the morning and evening temperatures are given; but, practically, the thermometer should be employed every four hours.

During the first week the temperature may rise from 98.6° to 104° Fahr. or more. In the third week the morning temperature may be from 4° to 6° lower than the evening. Any marked alteration in the temperature is an indication that some change of importance either for the better or the worse has occurred. Often in this way something is discovered which would otherwise have escaped notice.

The temperature affords valuable information in the diagnosis of typhoid fever. An illness is probably *not* typhoid fever, (1) if the temperature on the first three evenings, or on two of them only, is the same; (2) if on two of the first three mornings the temperature is alike; or, (3) if the temperature on the first two days rises as high as 104°.

As we have already indicated, all cases of typhoid do not run a uniform course. It frequently happens that the attack is so mild that its very existence is recognised with difficulty. It is probable that in these cases a very small quantity of the poison has entered the system, or else that the patient is in some way we do not quite understand protected, or partially protected, from its influence. It would be useless to attempt to describe these slighter forms, as they present very great diversity in their course.

The complications and sequelæ of typhoid fever are very numerous, more numerous, in fact, than in almost any other disease. In typhoid fever there is inflammation, and generally ulceration of a certain portion of the bowel. This condition may give rise to bleeding, and blood may be found in the stools. Sometimes the motions are only just streaked with the blood, but sometimes it is passed in large quantities. When the blood is not passed at once, but is retained for a time in the bowel, it colours the motions black. A considerable loss of blood nearly always causes a sudden fall in the temperature, and the use of the thermometer will often tell us what has happened, and indicate the necessity for prompt treatment, before any blood makes its appearance in the stools.

FIRST WEEK SECOND WEEK THIRD WEEK FOURTH WEEK

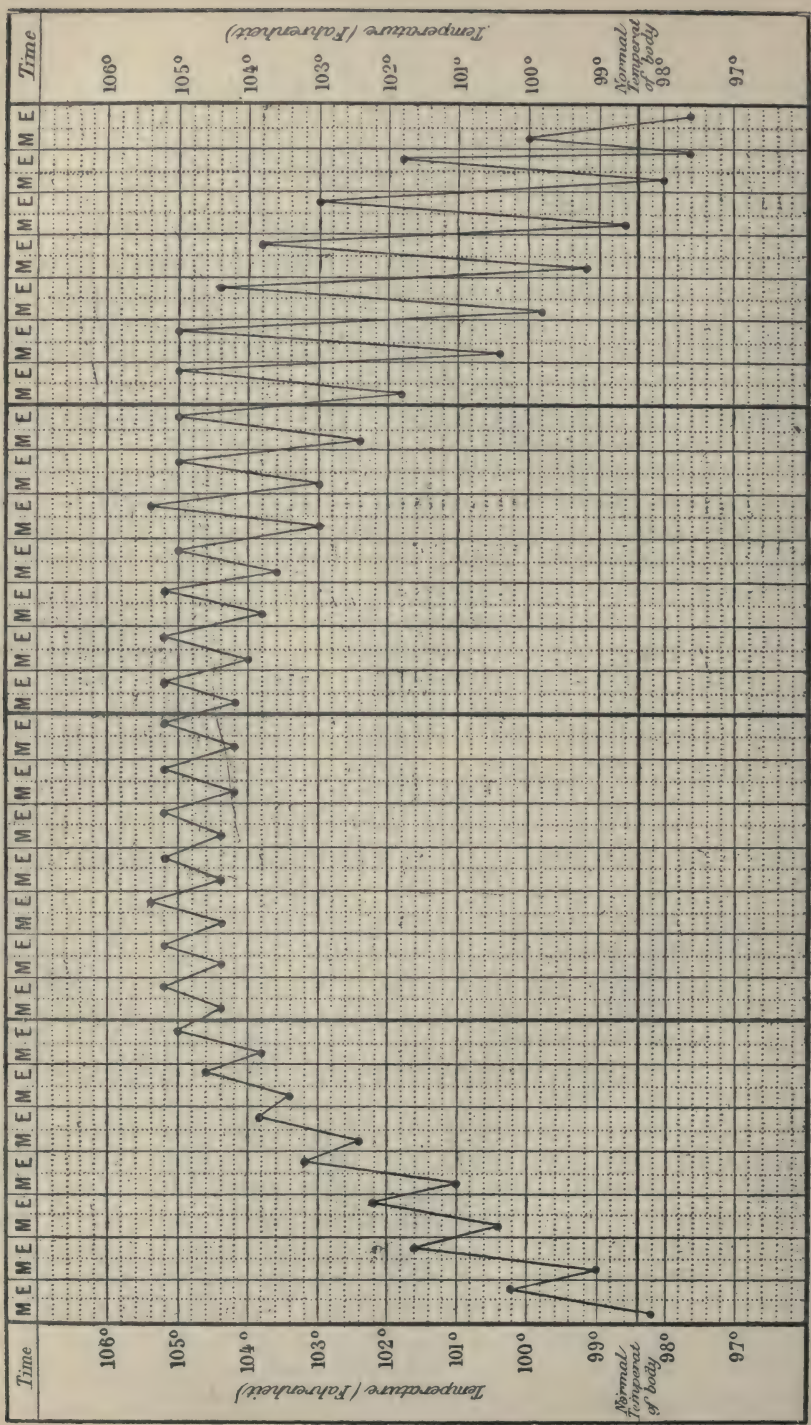


FIG. 10.—TEMPERATURE CHART, TO SHOW THE COURSE OF THE TEMPERATURE IN TYPHOID FEVER.
The lowest morning (M) and the highest evening (E) temperatures are indicated by dots which are joined by straight lines.

Sometimes the ulcers will eat their way through the bowel, and allow its contents to be poured out into the abdominal cavity. The bowel is often so thinned by inflammation and ulceration that the slightest force will rupture it. Straining at stool, violent vomiting or coughing, or a sudden change in position, may do the mischief. In some cases it has been found, at the post-mortem examination, that the perforation of the bowel had been caused by the movements of a common round worm which happened to have taken up its residence in that part of the body. The patient often experiences at the moment of perforation a sudden and violent pain which may be so severe as to produce faintness. A condition of collapse usually rapidly ensues, and this may at once prove fatal, although in many cases life is prolonged for a day or two longer. The pouring out of the contents of the bowel usually gives rise to inflammation of the peritoneum, or lining membrane of the abdomen, a condition known as "peritonitis." Peritonitis not uncommonly arises independently of perforation, the inflammation gradually spreading from the bowel.

A cold on the chest is a frequent complication of typhoid fever. Sometimes there is no cough, and its existence is detected only when the doctor examines the patient's chest. Usually, however, there is a cough attended with the expectoration of phlegm. Other and more serious mischief is sometimes detected in the lungs.

After recovery from typhoid the patient is often subject to fainting-fits, which come on whenever he assumes the upright position. Should he fall to the ground this may be sufficient to restore the circulation of blood in the brain; but should it so happen that he cannot fall, as when sitting propped up in an easy chair, the attack may prove fatal.

Bed-sores form a very dangerous complication, which nothing but the strictest attention will avert. The patient should be rolled over on his side, and his back examined every day.

After a severe attack of typhoid fever the hair usually falls off. This ordinarily occurs from the fourth to the eighth week of convalescence, and before it is complete the new hair may be seen cropping up. At first this is crisp and lustreless, but gradually it assumes a natural appearance.

The Registrar-General's reports show that 20,000 people die annually of typhoid fever in this country. As the mortality is about one in five or six, it follows that from 100,000 to 120,000 people must be attacked every year. Medical men entertain no doubt that if proper precautions were taken this disease might be effectually stamped out, and that it would disappear like the plague or ague.

In any individual case it is extremely difficult to arrive at a definite conclusion respecting its ultimate termination. Children bear the disease very much better than adults.

Let us now pass on to the consideration of the means which are at our disposal for the prevention of typhoid fever. Prophylactic measures, if attempted at all, must, to be of any service, be carried out thoroughly.

When a case of typhoid fever is introduced into a community, a town or village for instance, previously free from the disease, there should be no difficulty in preventing it from spreading. The essential point is to thoroughly disinfect the stools. A porcelain bed-pan should be obtained, the bottom of which should be

kept covered every time before it is used with a layer of crystals of blue-vitriol, and immediately after a motion the mass should be mixed with about half its bulk of common spirits-of-salt. These disinfectants may be obtained at any chemist's, and they are so cheap that their cost need never be any bar to their liberal use. In London and other large towns we have no help for it, and the motions must be emptied down the water-closets. The water-closet should be flooded several times a day with a strong solution of carbolic acid, and some should be placed in a dish or pot for constant evaporation. In the country the stools must never be emptied into the privy, or thrown upon dung-hills, or other similar places. A series of deep trenches should be dug at some distance from the house, as far as possible from the well or water-supply, and these should be used for the reception of the stools. A trench should never be used for more than two days, and should be carefully filled up as soon as discarded. Soiled linen should be immediately changed, and at once soaked in water containing Condy's fluid, and thoroughly boiled before the expiration of twenty-four hours.

During the prevalence of an epidemic the greatest attention should be paid to the character of the water. The best mode of obviating danger is to have all the water used for drinking purposes thoroughly boiled. An obvious precaution is to see that the milk is scalded. It should be remembered that the typhoid poison may be received into the system through the agency of mineral water. We have no guarantee that any precaution is taken to ascertain that the water used in the manufacture of the different aerated beverages which are now so largely consumed is pure, or is free from the possibility of typhoid contamination. After the attack is over the bedding should either be thoroughly disinfected or else destroyed.

No person living in a house in which there is a case of typhoid fever should take food without previously thoroughly washing his hands in carbolic acid and water, and using the nail-brush. This is a point of the utmost importance to the immediate attendants on the sick person.

We now pass on to the consideration of the treatment of typhoid fever. It is essential that from the very beginning of the attack the patient should have absolute rest, both of mind and body. Some people are very loth to acknowledge that they are ill, and seem to imagine that the best thing to do is to fight against the disease. They will not "give in," and they strain every nerve, even taking increased physical exertion to "shake it off." This is often done by the injudicious advice of some friend, who, himself being in perfect health, is ready enough to tell the sufferer to "pull himself together" and make an effort, and he will soon be well. Practically, it is found that those who do not rest or obtain treatment until they have been ill for some days, do badly in the long run. Even a very mild attack may, in these cases, imperil the life of the patient, and after the fever is over they creep through a convalescence so long as to be entirely disproportionate to the gravity of the attack. We cannot do better than illustrate the importance of early treatment by reference to a few figures. Out of a large number of severe cases treated in the hospital at Basle, it was found that of the patients admitted before the end of the fourth day only five per cent. died, of those who were admitted between the fourth and the eleventh days

thirteen per cent. died, and of those who were admitted after the eleventh day twenty-eight per cent. died. It has been shown on many occasions that railway-travelling is especially injurious to patients suffering from typhoid fever. Most people when they find they are ill are extremely anxious to get home, and will make every effort to accomplish their object. In the case of typhoid fever they should never be allowed to undertake a railway journey, for it will assuredly produce great prostration, and considerably lessen the chances of a favourable termination.

The patient should be confined to his bed from the very commencement of the attack, and should not be allowed to sit up again until the evening temperature has been perfectly normal for from three to six days, or even longer. It should be remembered that getting up too soon is a fruitful source of mischief, and that patients make the most rapid recovery who pass the whole time of their convalescence in bed. It is very desirable to have two beds close together, so as to give the patient a change, and allow of more thorough cleaning and airing. The patient must never on any account be allowed to walk or step from one bed to the other. He may be lifted carefully in the horizontal position, or what is better, the beds may be so close that the patient can slip or slide from one to the other.

Evacuations both from the bowel and the bladder must be made whilst lying down, by using a bed-pan and urinal. At first many people find a difficulty in relieving the bowels whilst lying on their backs, but it is astonishing what a little practice will do.

It is of the greatest importance that all worry and anxiety should be avoided. The patient may be told that everything is going well, but he must not be allowed to talk about his affairs. Above all, visitors must not be admitted. If you tell them there is fever in the house, they will not trouble you much. As a rule only one person at a time is required in the sick-room. No conversation is admissible, and the patient should not be read to. His questions should be answered briefly, and his wants, both expressed and unexpressed, should be cared for as quickly and quietly as possible. Very much—very much indeed—depends upon the nursing. A good sensible nurse, either professional or amateur, is half the battle. It is not to be supposed, however, that one person can do all the nursing; two at least are absolutely necessary.

The temperature of the sick-room should be rather below that of our ordinary sitting-rooms, and it should never be allowed to fall below 56° Fahr., or rise above 64°. It is very important to keep up a proper system of ventilation. One or more windows should be opened for an inch or two at the top both night and day, and should this cause too great a reduction in the temperature of the room, a good fire must be kept burning. People who have a high fever temperature run very little risk of catching cold.

It is a matter of the utmost importance that the patient should be properly nourished. The fever produces intense thirst, and plenty of fluid should be given. Water, either iced or not, sugar and water, weak wine and water, milk and water, thin barley water, and other similar drinks will be found useful. Effervescing

fluids of all kinds should be avoided, as they distend the bowel with gas and increase the danger of the rupture. The patient is often too apathetic to ask for something to drink, even when suffering severely from thirst. You must never trust to his helping himself, but as long as he is awake should frequently put the glass or feeder to his lips. If he is not thirsty do not urge him to drink.

Next, as to the food. There is no disease in which attention to diet is of more importance than in typhoid fever. Articles of solid food should from the very first be positively interdicted. From the time the nature of the illness is first recognised, or even suspected, until convalescence is thoroughly established, not a single particle of solid food, in any shape or form, must pass his lips. This is a matter of the utmost importance, in fact, a matter of life and death. Not very long ago a sad case occurred in one of our hospitals. A young woman, aged nineteen, was making a rapid recovery from typhoid fever, when her mother came to see her and brought her an orange. Some of the pips were swallowed; one of them perforated the bowel, and in a few hours the girl was dead. Mutton broth, beef-tea, barley water, thin oatmeal gruel, and above all, milk or milk and water, must be relied on for supporting the strength. The amount of stimulant, wine or brandy, to be administered must depend upon the condition of the patient, and also, to some extent, upon his previous habits. As a rule stimulants in any quantity are not needed in the early period of the disease. The strength of the pulse is the best guide, and should it fail, brandy must be resorted to. At first, four ounces of brandy in the twenty-four hours will be enough, but subsequently twice or three times this quantity may have to be administered. It should be given well diluted. For patients who do not like brandy a somewhat larger quantity of port wine may be substituted.

Of course, the attendance of a doctor is indispensable, but so many emergencies may arise in the course of the disease that we have no hesitation in indicating the course of treatment to be adopted.

We know of no specific antidote for this disorder, that is, of no drug which will stop it at any stage of its progress, although, as it owes its existence to a specific poison, it is not improbable that in time one may be found.

Of late years the *Baptisia tinctoria*, or wild indigo, has obtained a great reputation for the power of aborting the disease. It must be given quite at the commencement of the fever, and it is especially indicated when the following symptoms are present:—Hot and dry skin, quick full pulse, furred tongue, headache, great thirst, wandering or delirium at night, high-coloured urine, and usually confined bowels. The influence of baptisia in typhoid is said to be comparable to that of aconite in simple fever. The tincture of baptisia is given hourly in drop doses in about a tea-spoonful of water.

If we cannot cut short the disease we must try and tide the patient over his difficulties. The great danger is lest he should die from the intensity of the fever and the deleterious influence of the high temperature on the tissues. By far the largest number of those who succumb to typhoid fever die from the effect directly or indirectly of the fever heat. Out of 210 fatal cases that occurred in a large hospital during a certain period eighty-six were due to the direct influence of the

elevated temperature, and in the remainder the same influence had a large share in producing the complications or bringing about the fatal result.

It is obviously a matter of the utmost importance to consider what means are at our disposal for the reduction of the temperature of the body. In Germany cold baths are extensively used for this purpose. This is a method of treatment which has as yet been little employed in this country for typhoid fever, but the results have been so eminently satisfactory that it undoubtedly demands our best attention and consideration.

Our ancestors were very fond of taking patients suffering from high fever to the nearest river, and giving them a dip, and it must be confessed that viewed by the light of modern science, their treatment was not by any means bad. The cold bath treatment, as used in Germany, is very simple. For adults the full-length cold bath, at a temperature of about 68° Fahr., is used. The patient is lifted out of bed in a sheet, and then carefully lowered, sheet and all, into the bath. The teeth usually chatter a little at first, but the patient does not mind it so much as one might suppose. The duration of the bath should be about ten minutes, but for feeble persons it may be reduced to seven, or even five minutes. Directly the time is up, the patient is taken out of the bath, rapidly dried with hot towels, wrapped in a warm sheet, put to bed, given a glass of wine, and made to keep quiet. Sometimes the patient is put in the bath at a temperature of 95°, and the water is quickly reduced by the addition of lumps of ice to a temperature of 72° or lower. This latter method is less efficacious than that of which we have already spoken. The cold bath treatment should be commenced when the temperature in the rectum reaches 103°, or, in the case of children, 104° Fahr. The baths, to do any good, must be given frequently. Sometimes, in very severe cases, the bath may have to be given every two hours, and by these means many lives have been saved which with less energetic treatment must have been sacrificed. In the majority of cases, however, from five to eight baths per diem will suffice, the aggregate number during the whole course of the disease amounting to forty or fifty.

It will probably be thought that there must be many objections to this method of treatment, but in reality there are not. Perhaps it will be said that it must be a great shock to the system. Practically this is not found to be the case, it reduces the temperature, and those who have had most experience in this method of treatment are the most enthusiastic in its praise. It may be said, but surely it will drive the disease inwards. This is a purely theoretical objection, for of course the whole body is affected with the disease, the patient is ill, and not any particular part of him. But will it not set up inflammation? No, on the contrary, it is shown by statistics that patients treated with cold baths get inflammation of the lungs far less frequently than those treated by other methods. The trouble given to the attendants is in reality very little. The bath may be used for the same patient over and over again. If placed in the room, or, better still, by the bedside, it will always be ready for use. The patient does not find the cold bath so disagreeable as we should at first sight imagine. We have frequently seen patients with very high temperatures placed in a cold bath, and they rarely gave any indication of discomfort.

Cold packs are sometimes substituted for baths, and they are nearly always used in the case of children. A course of four consecutive packs of from ten to twenty minutes' duration apiece is about equivalent in effect to a cold bath of ten minutes.

Quinine is a drug which is very commonly used for reducing the temperature in typhoid fever. It does very little good when administered in ordinary five-grain doses. From twenty to forty grains must be given to produce any very marked effects. This quantity must positively be taken within the space of half an hour, or at the most an hour. The sulphate of quinine must be administered in powder in seven-grain doses every ten minutes. It is useless to expect much benefit if the dose is divided and the administration extended over a long period.

Liebermeister, of whom we have already spoken as an authority on typhoid fever, says :—

“There are still a good many physicians who have a sort of dread of these large doses of quinine. Where a dose of thirty grains is indicated, they give fifteen, and then try to make up the deficiency by repeating it oftener, say every day or twice a day. No sufficient and satisfactory result need be looked for from such a method. I have given quinine in large doses to at least 1,500 typhoid fever patients, besides hundreds of patients with pneumonia and other diseases. The number of single doses, of one scruple (twenty grains) to forty-five grains, which I have ordered in hospital and private practice, probably amounts to 10,000. And in no single instance have I seen any permanent injury follow which I could attribute to the action of the quinine.”

These full doses of quinine usually produce a loud ringing or roaring in the ears, and partial deafness. In rare cases they may even bring about a state similar to that of drunkenness, with unsteadiness of motion, weakness in the legs, and a decided feeling of discomfort. The temperature of the body falls materially, sometimes even to the normal standard, and soon all the symptoms dependent on the excessive fever are modified. The decline of temperature usually begins in a few hours after taking the medicine, and reaches its maximum in from six to twelve hours after. The first administration of forty grains within the hour should be made in the evening, so that its effects may coincide with the natural daily variation in temperature. It should never be repeated within twenty-four hours, and, as a rule, it should not be given again under two days. Quinine proves as successful in children as in adults. For children under two years old, ten to fifteen grains are required; for those between the ages of three and five, fifteen grains; for those between six and ten years of age, fifteen to twenty-three grains; and for those between eleven and fifteen, twenty-three to thirty-one grains. The use of quinine may be advantageously combined with the cold water treatment.

Sometimes large doses of digitalis are used for the reduction of the temperature, but this method of treatment is not altogether free from danger.

We must now pass on to the consideration of other symptoms which may require treatment. If the bowels remain obstinately confined, a small dose of castor oil may be given. Of course, constipation is an exception, and there is usually diarrhoea. If the purging is moderate, it requires no treatment. Should there be more

than three or four motions daily, the acetate of lead mixture (Pr. 30), to each dose of which ten drops of solution of acetate of morphia may be added, will be found of use, or a starch and opium injection—twenty drops of laudanum to four ounces of starch water—may be employed. Sulphate of copper and nitrate of silver sometimes prove of service in obstinate cases.

When there is frequent copious diarrhoea, with the passage, at times involuntary, of drab or ochre-coloured evacuations, associated with enlargement and tenderness of the abdomen, excessive prostration and thirst, and a nearly imperceptible pulse, arsenic, in the form of the arsenic mixture (Pr. 40), may be employed with advantage. When there is a bitter taste in the mouth, a brown-coated, rough tongue, a stupefying headache and cough, tincture of bryony will usually do good (Pr. 49).

Bleeding from the bowel is a symptom which sometimes requires treatment. When the quantity is very small it will do no harm, but should as much as a table-spoonful appear in the motions at one time it is well to endeavour to check it. A bladder or india-rubber bag containing ice should be placed on the abdomen. Twenty drops of the tincture of perchloride of iron may be given every alternate hour in a glass of water, or a tea-spoonful of the ipecacuanha mixture (Pr. 50) may be given every ten minutes for the first hour, and subsequently hourly. When the bleeding from the bowel is accompanied by suppression of the urine, drop doses of turpentine may be employed.

When there is much pain in the abdomen poultices or hot fomentations are admissible.

When perforation of the intestine takes place the only hope of a favourable issue lies in securing complete rest of the intestines for a considerable time. Opium should be administered in doses of a grain every hour, until the patient falls asleep. A grain of opium is contained in fourteen minims of laudanum, but it is better to use solid opium made up into little pills. The patient should be kept as constantly as possible under the influence of the drug. At first no nourishment of any kind must be given, nothing but a little ice to suck to allay the thirst, and for a long time only the most easily digestible food should be given, and that in the fluid form. The object is to get the opening in the bowel to heal, and this will never take place if food is constantly passing out through it. Under no circumstances must purgatives be given.

To allay the excessive hunger from which many patients suffer during convalescence, and before it is safe to give any solid food, drop doses of tincture of cinchona given hourly may be used with advantage. It does not matter how earnestly the patient may pray for something to eat, he must have no solid food until the evening temperature has been normal, *i.e.*, as low as 98.4° Fahr., for several consecutive days. This rule must be strictly and literally observed. Its infringement would, almost to a certainty, be attended with the most disastrous consequences.

Typhus Fever is a contagious disease lasting from two to three weeks, and characterised by a rash which appears between the third and sixth days. It has received a multitude of names, almost every epidemic resulting in some addition to

the list. It is most commonly known as "spotted fever," "epidemic," or "contagious fever," and "camp fever," or "gaol fever." The terms "malignant fever" or "putrid fever" have been sometimes applied to severe cases.

Typhus attacks people of all ages and both sexes indiscriminately. If we were to rely solely on evidence obtained from death registers and hospital statistics we might imagine that it was very uncommon in children, but this is readily explained if we remember that typhus seldom proves fatal to children, and that in many of our large hospitals people under fifteen are not admitted.

Depressing mental emotions, over-work, and anxiety, by undermining the general health, render the system more susceptible to attacks of the disease. It is supposed by many that during the prevalence of an epidemic the fear of catching the fever, and the consequent depression which it produces, may act as a powerful predisposing cause.

Persons who are under-fed, or who live upon food of an inferior quality, are especially liable to suffer from typhus. Typhus is by no means an aristocratic disease. It seldom attacks the rich and well-to-do, but prefers to associate with paupers and those but little removed from the level of pauperism. It delights in dirt and squalor, and is never so happy as when it can obtain admission to a gaol or work-house. It often breaks out, and always attains its greatest severity, when people are worse off and more badly fed than usual. It is almost always an accompaniment of war and commercial distress, and often follows in the wake of strikes. In Ireland, during the potato famines of 1818 and 1847, typhus raged with the greatest severity, and it is estimated that on each of those occasions more than one-eighth of the entire population was attacked.

Over-crowding is a very favourable condition both for the production and propagation of typhus. Some of our most fatal epidemics have occurred in Liverpool, where in many parts the houses are built back to back in narrow unventilated courts. In Glasgow the mortality from typhus fever in different parts of the town corresponds so exactly with the degree of density of the population that there can be very little doubt that they stand in the relation of cause and effect.

Typhus is essentially a disease of cold and temperate climates, and there is no sufficient evidence to show that it ever occurs within the tropics. Great Britain and Ireland are, and ever have been, the chief seats of the disease. It is most common during the last two months of the year, probably because at that time the poorer classes suffer more from want of food, and display a greater aversion than usual to proper ventilation.

Typhus fever is a distinctly contagious disease, but at the same time tolerably close communication with the sufferer is necessary for its transmission from person to person. For instance, the extension of typhus fever from a hospital to the adjacent houses seldom or never occurs, and in this respect it differs from small-pox and many other diseases of this class. Casual visitors to fever wards are rarely attacked, but nurses, who in the discharge of their duties are brought in very much closer contact with the patients, seldom escape. Doctors in charge of fever patients nearly always catch typhus sooner or later, though, as a rule, much less quickly than nurses. It would appear that dilution with air in a great measure destroys the

activity of the typhus poison. Persons who have once suffered from typhus are rarely attacked a second time. Typhoid fever neither protects from nor predisposes to typhus.

People so seldom fall ill of this fever after only a single contact with a case of the disease that some difficulty has been experienced in determining the time during which the poison may remain latent in the system without making its effects manifest. The period of incubation is probably variable, and is supposed to range from a few hours to several days.

Typhus fever usually begins with headache, loss of appetite, and general malaise. The patient is dull, and out of sorts, and, in spite of a feeling of extreme fatigue, is unable to sleep, and is restless at night. For the first day or two it is often very difficult to say what is the matter with the patient, or to form any idea of what he is about to suffer from. Sometimes the disease begins suddenly with a shivering fit, but this symptom is far less common than at the onset of small-pox and some other acute diseases. For three or four days these general symptoms increase in severity, and are accompanied by thirst, heat of skin, and very great prostration. Typhus patients are usually knocked over by the disease far more quickly than sufferers from typhoid fever or small-pox. A man who has typhus can seldom keep about after the third day, and is only too glad to take to his bed.

As the fever increases in severity the skin becomes hot and slightly reddened, especially about the head and face, and noises in the ears are not uncommon. Sometimes there are symptoms of a cold in the head, and the patient may suffer from sneezing and a slight sore throat.

The appearance of a typhus patient is very peculiar, and is to a practised eye eminently characteristic. The sufferer lies prostrate on his back, with a weary, dull, heavy, absent expression. In fact, he looks very much like a man who has made himself stupid with drink, and is just beginning to recover from the effects of the debauch. In the advanced stages of a severe attack, the patient sinks down in bed, lying on his back, with his eyes shut or half-shut, moaning and too prostrate to answer questions, to protrude his tongue, or make the slightest voluntary movement. Despite this apparent quiet, he passes restless, uncomfortable nights, often broken by delirium. From the very beginning of the fever the tongue is coated, at the onset with a white, and later with a thicker yellow fur, which exhibits a strong tendency to become dry. Thirst is a very constant symptom, so that in many cases the only thing that is really relished is plain cold water. The condition of the bowels varies with different patients, for there may be either diarrhœa or constipation. Even when diarrhœa is present the stools are not at all like those we have described as being met with in the course of typhoid fever.

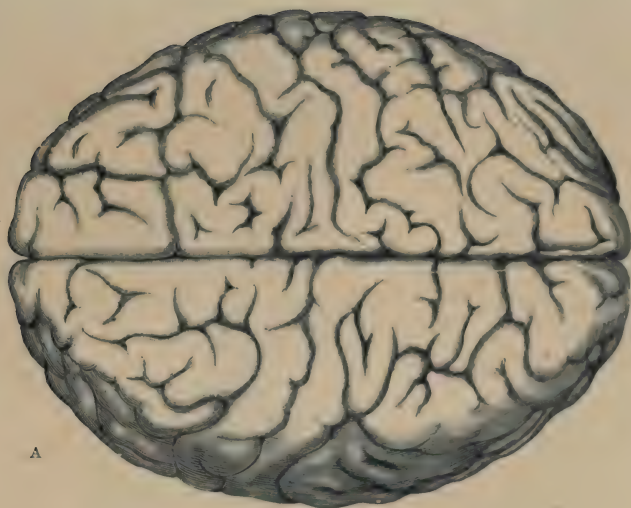
The rash which is peculiar to and distinctive of typhus fever is known as the mulberry rash. It usually make its appearance on the fourth or fifth day, but sometimes later and occasionally earlier. It comes out first on the backs of the wrists, and about the armpits and navel, but in many cases it covers the whole trunk, and frequently the arms and legs as well. Sometimes in the case of children it appears on the face so copiously as to be mistaken for measles. The rash is usually described as consisting of two portions, between which every conceivable connecting-

link may be found. One is a faint irregular dusky-red fine mottling which looks as if it had its seat some distance below the surface; the other is formed of separate spots of small size and purplish colour scattered over the mottled surface, and looking more or less superficial. These spots are irregularly roundish in shape, and at their first appearance are slightly elevated above the skin. The mottling often exists without the distinct spots, but the spots very seldom without the mottling. From the first to the third day after the appearance of the rash no fresh spots are seen, but each spot, although it becomes less elevated and more dark and dingy, continues visible till the whole rash disappears. During the first three days, typhus spots temporarily disappear under the pressure of the finger, but after that time they remain unaltered by pressure. They usually subside between the fourteenth and twenty-first days, but in fatal cases they remain after death.

It will be important to consider the course of the temperature in this disease. On the evening of the first day of the fever the temperature may be as high as 103° Fahr., and it continues rising until the third day, when it often reaches 106° Fahr., or more. The difference between the morning and evening temperature is less marked than in typhoid fever, it seldom amounting to much more than a degree. The highest temperature is usually reached on or about the fourth day, and then a slight fall takes place. On the seventh day there is commonly a more marked fall, but in severe cases this may be indicated only by the absence of the usual evening rise, or it may even be totally absent. During the second week the temperature rises again, but only for a day or two, and it is rarely so high as in the first week. On or about the fourteenth day there is usually a considerable fall in the temperature, and this occurs even in those severe cases in which there was no fall on the seventh day. In favourable cases the temperature becomes normal about the end of the first half of the third week. The suddenness with which the fever leaves the patient is very characteristic of this disease, the temperature not unfrequently falling as much as three or four degrees in the course of a night. In cases which are about to terminate fatally the temperature remains high, about 105° Fahr., until the last, and very frequently there is a very rapid rise a few hours before death closes the scene.

The duration of an uncomplicated case of typhus fever varies from twelve to twenty-one days. It is extremely uncommon for a relapse to occur. The greatest danger is usually during the second week of the illness, death seldom ensuing before the seventh day. The recovery from typhus is usually very rapid, a wonderful change in the condition of the patient often occurring in twenty-four or forty-eight hours. The *sequelæ* of this disease are very few, especially when compared with typhoid or scarlet fever, and an attack seldom results in any permanent injury to the health.

The mortality in typhus fever, taking the average of all cases, is about ten per cent. In children it is as low as five per cent, but in elderly people it rises to fifty or sixty per cent, or upwards. Bulky, fat people are found to bear the disease badly, and previous habits of intemperance add very greatly to the gravity of the attack. Although people in the upper classes of society seldom catch typhus, yet when they do have it they are said to suffer much more than their poorer brethren.



A



B

THE HUMAN BRAIN.

A. Upper surface.

B. Lower surface.

At the commencement of an attack of typhus fever, a difficulty is sometimes experienced in recognising the exact nature of the complaint, and this difficulty is not always removed even when the rash makes its appearance. The eruption is sometimes, though not commonly, a good deal like that of measles. They both appear about the same day after the commencement of the illness; and in children especially it is often no easy matter to say from which of the two diseases the patient is suffering. The eruption of typhus is of a smaller pattern than in measles, and it seldom assumes a crescentic arrangement. When the rash is much elevated above the skin this is a point in favour of measles, and the same may be said when a cold in the head is a prominent symptom.

There is usually very little difficulty in distinguishing typhoid fever from typhus fever, but as these two diseases were formerly confounded, it may not be uninteresting to compare their most prominent features in a tabular form:—

TYPHUS AND TYPHOID FEVERS COMPARED.

<i>Typhus Fever.</i>	<i>Typhoid Fever.</i>
1. <i>Age.</i> —May occur at any age.	Rare in old people.
2. <i>Social condition.</i> —Occurs chiefly among the lower classes of society.	Occurs as frequently among the rich as the poor.
3. <i>Contagiousness.</i> —Very contagious.	Not contagious.
4. <i>Onset.</i> —Well marked.	Often insidious.
5. <i>General appearance.</i> —Very dull; pupils of eyes usually contracted.	Less apathetic; pupils of eyes usually dilated.
6. <i>Bleeding from nose.</i> —Rare.	Not uncommon at onset.
7. <i>Eruption.</i> —Appears before the seventh day; comes out in a single crop; spots at first not elevated, and may not disappear on pressure.	Does not appear till seventh day; comes out in successive crops; spots elevated, and disappear on pressure.
8. <i>Diarrhæa.</i> —Not common; stools natural or dark in colour, if loose, of a muddy consistence.	Common; stools yellow like pea-soup.
9. <i>Tongue.</i> —Nearly always dry.	May be moist.
10. <i>Duration.</i> —On an average fourteen days; in fatal cases death always ensues before the twentieth day.	On an average twenty-two days; may prove fatal after the twentieth day.
11. <i>Relapses.</i> —Rare.	Not uncommon.
12. <i>Convalescence.</i> —Rapid.	Slow.

Practically one would not need to compare all these different points to distinguish between the two diseases. Usually it is important to consider the nature of the fever prevailing in the town or neighbourhood, and to inquire carefully as to the possibility of the patient's exposure to any source of infection.

At present we know of no means either of curing or shortening the duration of typhus. The symptoms may be advantageously treated, and the patient's strength may be supported through the time of the fever, but we have no means at our disposal for arresting the progress of the disease. It is almost needless to say that

the attendance of a doctor is necessary. The general treatment is not essentially different from that we have already adopted in other fevers.

It is very necessary that the patient should be placed under the best possible hygienic conditions. He should be placed in a large room, with an ample supply of fresh air at a moderate temperature. Cleanliness is absolutely essential, and frequent change of both personal and bed linen is most desirable. The services of a couple of experienced nurses should be obtained. In the case of poor people, living in close crowded rooms, removal to a hospital should be insisted on both for the sake of the patient and his neighbours. Quiet and freedom from anxiety greatly add not only to the patient's comfort but to his chances of recovery. It is a good plan to carefully sponge over the whole body several times a day; and, in many cases, the employment of the wet pack proves beneficial.

In a disease of this severity it is very essential that the patient's strength should be supported by every means in our power. In the early stages of the fever, as long as the appetite remains good the diet need not be restricted, and the patient may have anything he chooses if it is not positively noxious. Soon, however, all relish for food is lost, and the patient will take nothing but liquids and sick-room delicacies. Sometimes the dislike for food is so great that it has to be administered just as if it were so much medicine. The digestive functions are so greatly impaired that only the most nutritious substances should be administered. Beef-tea, mutton-broth, chicken or veal broth, milk, eggs, arrowroot, jellies, and other similar articles will be found useful. A good nourishing soup is made as follows:—Stew two ounces of the best well-washed pearl sago in a pint of water till it is quite tender and very thick, and then mix it with half a pint of good boiling cream and the yolks of two fresh eggs. Blend the whole with a quart of beef essence made by cutting up in small pieces four pounds of lean beef from the sirloin or rump, placing it in a covered saucepan with a quart of cold water by the side of a fire for four or five hours, and then allowing it to simmer gently for two hours. It must be skimmed well, and the mixtures are to be mixed when both are hot. So little is usually taken at a time, that it is necessary to administer something every two hours; and the fact of the patient being drowsy or sleepy should not prevent this from being done. The patient usually suffers greatly from thirst, and he should have plenty of water, lemonade, soda water, cold weak tea, or any other beverage he may fancy. Iced drinks often prove very grateful and refreshing.

The administration of the proper amount of alcohol is a point which requires some judgment. Children rarely require stimulants of any kind, and many adults do very well without them. Alcohol may be advantageously administered in the case of old people, or when the patient has been long accustomed to the free use of stimulants. Its employment is especially indicated when there is great prostration with low delirium and drowsiness, and in cases in which the pulse is weak, or the extremities are cold and blue. It is rarely required before the appearance of the eruption, and proves most useful during the second and third weeks of the disease. In cases in which stimulants are required, a daily allowance of a bottle of good claret, or half a bottle of sherry, would not be excessive for an adult. In

severe cases large doses of brandy may have to be administered. Should the patient take a fancy to beer there is no objection to his having it in moderation. When the food or drink cannot be swallowed, or is rejected by vomiting, it may have to be administered in the form of an injection.

Much may be done to add to the comfort of the patient by treating the most prominent and distressing symptoms. The thirst may often be relieved by the use of acid drinks, such, for instance, as the gentian and acid mixture (Pr. 15) diluted with water. A weak infusion of cascarilla or orange peel, slightly acidulated with hydrochloric acid, may be used for the same purpose. Raspberry vinegar, too, is a useful drink. Sweet fruits, although at first agreeable and refreshing, should be taken only in moderation, for they are apt to give rise to a disagreeable taste in the mouth, or may even produce flatulence or diarrhœa. There is no advantage in curtailing the amount of water taken by the patient. Small pieces of ice to suck often prove very grateful. The headache, sleeplessness, and delirium are often relieved by small doses of opium—for example, five drops of laudanum in a little water every four hours. When the delirium is very violent, mechanical restraint may have to be resorted to, but this should be avoided if possible. Furious delirium, accompanied by confusion of ideas, throbbing of the temples, and great thirst, is often controlled by the belladonna mixture (Pr. 39) given in tea-spoonful doses, every ten minutes for the first hour, and subsequently hourly. Shaving the head, and the applications of cold lotions, or of a pocket handkerchief moistened with aromatic vinegar-and-water, to the scalp and forehead will often allay the violent and distressing headache. The bowels should be opened daily, but only the very mildest laxatives should be used, as purgatives often set up diarrhœa. Should the bowels be open too freely, some of the remedies of which we have spoken in the treatment of diarrhœa should be employed. Vomiting may be checked by ice, lime-water, drop doses of ipecacuanha wine given hourly (Pr. 50), or perhaps by a blister or mustard poultice applied to the pit of the stomach. The condition of the bladder should be carefully attended to, for in diseases in which the patient is unable to pass his water the use of the catheter may be necessary.

To avoid infection fresh air, efficient ventilation, and cleanliness, are of paramount importance. The attendants on the sick should, as far as possible, avoid inhaling the breath of, or the exhalations from the body of, the patient. Disinfectants, such as chloride of lime, carbolic acid, and Condy's fluid should be constantly employed in the sick-room, but should never be regarded as substitutes for fresh air. At the termination of the illness the room should be thoroughly fumigated, and then whitewashed and re-papered.

Simple Fever, or Febricula.—Occasionally a person may be slightly feverish, and the most careful examination may fail to detect the presence of any other symptom. We speak of these as being cases of simple continued fever or *febricula*, and when the complaint is very transitory we sometimes call it *ephemeral fever*. It is a very trifling complaint, and may be produced by almost any combination of circumstances which lowers the general tone of the system. In delicate susceptible people it may be caused by sudden atmospheric changes, or the prevalence of an unusually

high or low temperature. It may be the result of getting wet through, of exposure to the heat of the sun, of sleeping in damp sheets, or of living in a cold draughty house. Errors in diet, whether in the form of under-feeding, or what is far more common, over-feeding, play a prominent part as exciting causes. Many people suffer from a poor and insufficient diet, but a still larger number owe their temporary ailments to a too free indulgence in the pleasures of the table. Excessive bodily fatigue, excitement, anxiety, and possibly over-work, may produce a transient febrile condition. In the majority of cases febricula is associated with, if not dependent on, some slight functional disturbance of the stomach or chest.

The symptoms of simple continued fever are chiefly those which we have already enumerated as together constituting that condition which we call fever. The complaint is commonly ushered in by a little chilliness, or by chills accompanied by flushes, and this is followed by burning heat and dryness of the skin, a full, quick pulse, a coated tongue, thirst, loss of appetite, high-coloured scanty urine, and constipation. The temperature often rises very rapidly, and may reach 102° or 103° in the course of a few hours. Sometimes there is headache, pain in the loins, or a condition of considerable prostration. These symptoms usually last only a few hours, or at the utmost a day or two, and then rapidly decline, leaving the patient weak but otherwise well. Convalescence may be ushered in by bleeding from the nose, a copious discharge of urine, or even by the breaking out of a few spots at the corners of the mouth.

The treatment of simple continued fever is of the simplest possible description. The patient should keep quite quiet indoors, and should take a thorough rest until his indisposition has passed off. It is not absolutely necessary that he should stay in bed, for he may be on the sofa in his own room covered over with a rug, and pass the time away in reading his favourite authors or skimming through the pages of the last new novel. He should abstain from solid food until his temperature has returned to the normal, and should subsist chiefly on milk, or iced milk and soda water, with an occasional sponge cake or a biscuit or two. Stimulants are not usually necessary, but when the patient is much prostrated, as the result of previous fatigue or anxiety, a couple of glasses of port wine may be allowed in the course of the day. At the commencement of the attack a hot foot-bath, or the wet pack will often do good. Very little medicine is as a rule required. Three or four teaspoonfuls of solution of acetate of ammonia (Mindererus's spirit) may be taken every four hours to favour perspiration, and promote the action of the kidneys.

The drug on which we are accustomed to place the greatest reliance is aconite. The earlier it is given the better. The dose of the aconite mixture (Pr. 38) is a teaspoonful every ten minutes for the first hour, and subsequently hourly. It quickly reduces the intensity of the fever, a fact easily shown by the frequent employment of the thermometer. When there is redness of the face, violent headache, confusion of ideas, throbbing of the temples, and wakefulness, belladonna should be given. The dose and mode of administration of the belladonna mixture (Pr. 39) are the same as for the aconite mixture. In some cases it will be found advantageous to give a dose of the aconite mixture and the belladonna mixture alternately. They should not be mixed, or given at the same time.

When the fever is unusually severe or prolonged, and there is much prostration, a half tea-spoonful dose of the arsenic mixture (Pr. 40) given every hour for six or eight hours will be found serviceable.

When the prominent symptoms are stupefying headache, aggravated by movement, shooting pains in the limbs, a cough, yellow coated tongue, nausea, and constipation, the best remedy is tincture of bryony, given according to Pr. 49.

Remittent Fever, like ague, is due to the action of malaria on the system. A larger dose of the poison is required to produce a "remittent" than an "intermittent" fever. We have already explained the technical use of these terms. In intermittent fevers, as we have seen, the patient is at some portion of the day quite free from fever, but in remittent fever such is not the case; the fever is sometimes less but the patient is never quite free from it. An ague may be converted into remittent fever by continued exposure to the action of malaria, and on the other hand as a patient is recovering from remittent fever the complaint often assumes an intermittent form.

The disease of which we are now speaking is sometimes known as bilious fever, or bilious remittent fever, or as jungle fever. In this country we meet with it only in a very mild form, but it is a formidable disease in many parts of the world. It prevails with great intensity on the western shores of Africa, in the East Indies, in many parts of North and South America, and in the West India Islands.

We need not discuss its mode of causation, as what we have said respecting the origin of ague is, in a great measure, applicable to this disease.

The fit, as in ague, consists of three stages, but here the cold stage is less severe and of shorter duration, and in some of the worst cases it may be altogether absent. The patient usually at first experiences a sensation of nausea with weariness, languor, and lassitude, and complains of oppression at the pit of the stomach. He then feels a certain amount of chilliness, which gradually passes off. The hot stage then commences, the countenance is flushed, the patient complains of rending headache, with excruciating pains in the limbs and loins, the skin is burning hot, and the unfortunate sufferer is restless, and tosses about in bed in the vain search for an easy posture. Vomiting soon begins, and often continues through the disease a distressing and embarrassing symptom. It usually fails to relieve the sense of fulness and oppression at the pit of the stomach, although the amount of fluid evacuated is often very great. When the hot stage has lasted from six to twelve hours, a little moisture breaks out on the brow and neck, and gradually spreads over the body; the pulse gets slower, the skin is cooler, the headache is less, vomiting ceases, and the patient obtains some sleep. There is always a remission every morning, but in bad cases this is the only one that can be distinguished, so slight is the abatement. The disease varies in duration from five to fourteen days. Death rarely occurs before the eighth day, and in most cases under judicious treatment a favourable termination may be hoped for.

This is a disease in which a medical man should be sent for without delay. As, however, it may in many cases be impossible to obtain professional assistance, we will indicate the line of treatment to be pursued. At the commencement of the

attack a purgative pill (Pr. 60) should be given with the view of thoroughly clearing out the bowels. During the cold stage no special treatment is required. If the hot stage be mild, without much headache or heat of skin, no interference is necessary beyond giving the patient iced water, or lemonade, or soda water to drink, or, better still, a little ice to suck.

If, however, the skin is very hot, the headache and pains in the limbs and loins severe, or the patient very restless, cold towels may be applied to the head, and the surface of the body sponged with tepid water. The vomiting is not only very distressing, but rapidly induces exhaustion. Sometimes it may be combated by sucking little lumps of ice, or by the application of a mustard poultice, or a pad of lint sprinkled with chloroform, and covered with oil silk, to the pit of the stomach. A still better plan is to give drop doses of ipecacuanha wine every ten minutes for the first hour, and subsequently hourly, in a tea-spoonful of water. During its employment other medicines and methods of treatment should be suspended.

Directly the remission sets in—that is to say, as soon as moisture appears on the skin, and the pulse is reduced in frequency, a ten-grain dose of quinine (four table-spoonfuls of Pr. 10) should be given. This should be repeated every second hour until thirty grains have been given, or until its administration is interrupted by the access of another fit. If the stomach refuses to retain the quinine, a twenty-grain dose must be injected into the bowel in beef-tea or any bland fluid. It is a golden rule that by some means or other thirty grains of quinine must be taken into the system between the termination of one fit and the commencement of the next. In some very bad cases, it may even be advisable to give quinine at once, and not to wait for the remission; but it is better not to do this unless it is absolutely necessary. The patient's strength must be supported by nutritious food and a judicious administration of stimulants.

HOW TO AVOID FEVER IN HOT CLIMATES.

The following simple rules will, we trust, be of use to emigrants and others living in tropical climates. They are, with a few minor alterations, identical with those drawn up for the guidance of the soldiers serving on the Gold Coast in 1873:—

1. Avoid needless exposure to the sun, rain, night-dews, and fogs.
2. After being exposed to the sun, bathe the head and face, and if possible the whole body. If wet, change your clothes with the least practicable delay, and rub yourself with a rough towel. If exposed to dews or fogs, take a cup of hot coffee or soup, or a little quinine wine.
3. Avoid stagnant water or such as contains “bush” plants, whether they be dead or living. When possible, use only water which has been filtered or otherwise purified. When at work, cold tea is the best beverage. Rinse out the mouth before swallowing the first draught, and take only two or three mouthfuls at a time. This will relieve thirst as effectually as a longer draught.
4. Avoid all spirits, or other drink offered by natives. All of them are more or less unwholesome to Europeans, and they may be absolutely poisonous.
5. The moderate use of tobacco in smoking may be of use during the prevalence of damp, malarious fogs. In excess, however, it does more harm than good. In no other form than smoking has it any good effect whatever.
6. In regard to food, the more you restrict yourself to a plain, substantial diet, the better it will be for you. If in the bush, carry with you a small supply of pepper, mustard, salt, and an onion. These may often be the means of furnishing you with a savoury repast.

7. To guard against the bites of insects, apply a little lime-juice to the hands and face.
8. In the bush, beware of unknown fruit. Some kinds, tempting in appearance, are poisonous in reality.
9. Cleanliness of person and clothing should be as far as possible observed. The daily use of a tooth-brush and powdered charcoal for the teeth is enjoined. The under-clothing should be changed as often as possible, or if it cannot from any cause be washed, it should be hung up in the sun and well shaken.
10. A respirator, or veil of thin linen, or cotton gauze, worn over the face, may act as a guard against malaria in the bush.
11. Never lie down upon the bare ground, and never in thick grass. In the former case you run the risk of an attack of fever or dysentery, and in the latter of being bitten by snakes, &c. Avoid remaining in the vicinity of newly turned-up soil.
12. Do not believe that you are in any way "proof" against the climate. To believe this will sooner or later prove delusive. You can lessen the risks of illness by due care and precaution, but the attempt to brave those risks will surely and speedily end in your own prostration.
13. The sooner, on being attacked with illness, you can obtain medical treatment, the greater your chances of recovery. If you suffer from headache, dislike to food, chilliness and pains in the back, or from gnawing pain in the stomach and looseness of the bowels, get advice if you possibly can.

Yellow Fever.—This is a disease which is seldom seen in this country, but is habitually present in the seaport towns of the West India Islands, in Africa, and some parts of the coast of North and South America. It seldom occurs at a greater elevation than 2,500 feet above the level of the sea, and whilst it may cause the greatest devastation in plains and valleys, the inhabitants of elevated regions enjoy almost complete immunity from its effects. It is essentially a disease of warm climates, an average temperature for some weeks of at least 72° Fahr. being necessary for its production. The places in Europe most liable to be affected are the southern ports of Spain.

It usually has its origin in regions which are capable of producing ague. It differs from this disease in many respects, but in none more strikingly than in the fact that it is infectious, and is capable of being communicated from one person to another.

Yellow fever is generally said to consist of a single paroxysm. There are certain premonitory symptoms, consisting usually of loss of appetite, of flatulence, and a peculiar watery look about the eyes. There are, as a rule, no distinct rigors, but chills alternating with flushes of heat. The patient complains of headache and violent pains in the back, and suffers greatly from nausea and tenderness at the pit of the stomach. This usually lasts for a day or two, and then vomiting commences. Everything is at once rejected, usually without any effort, and the vomited matter will be found on examination to be tinged with bile or blood—"black vomit." The pain in the abdomen is increased, the urine becomes scanty, and the bowels are obstinately confined. The patient is often very restless, and exhibits an evident derangement of intellect, although he may answer questions coherently. This condition may last from a few hours to two or three days, and is followed by a state of remission. The patient feels much relieved, the irritability of the stomach abates, the skin becomes moist, and the bowels are freely open. In favourable cases this is an indication of convalescence, but too frequently the improvement is of short

duration. A yellow tinge makes its appearance on the forehead, and rapidly spreads downwards over the face, back, and chest, and then involves the whole body. After a few hours the black vomit returns, the pain at the pit of the stomach is aggravated, the patient refuses all medicine and food, complains of excruciating pain in the calves of the legs, and finally becomes delirious.

The usual duration of the fever is from three days to a week, although in some cases death may ensue in a few hours. When the sixth day elapses without the occurrence of black vomit, or suppression of the urine, there is great hope of recovery, but even if all the other symptoms be absent, and only one of these two present, the indications are unfavourable. In many epidemics the mortality is as high as one in three.

In so serious a disease as this, the attendance of a doctor is of course essential, but considering the frequency with which it occurs in places where medical aid is not obtainable, we will briefly indicate the line of treatment to be adopted.

The disease cannot be cured, and all we can hope to do is to guide the patient safely through it. There is little to be done, except to treat the most urgent symptoms as they arise. Quinine, which does so much good in ague, is here useless. Removal from the infected locality is often followed by a marked amelioration of the symptoms. Nothing so quickly and so effectually arrests yellow fever on board ship as running into a cold latitude. The greatest attention should be paid to cleanliness, and during the whole of his illness the patient should be in a large, well-ventilated room. As the bowels are generally confined, a calomel purge (Pr. 61) may be given at the onset of the disease. Drop doses of ipecacuanha, given frequently, will usually check the vomiting, but should this fail, recourse must be had to chloroform, given internally, or to milk and lime-water.

ULCERS. (*See SORES OR ULCERS, p. 516.*)

ULCER OF THE STOMACH.

Ulcer of the stomach probably occurs far more frequently than is usually supposed. It so frequently heals spontaneously, and the patient recovers so quickly, that the true nature of the illness is not even suspected. In post-mortem examinations scars of old ulcers are frequently met with on the inner wall of the stomach. The disease occurs more frequently in women than in men. The majority of cases occur between the ages of twenty and thirty, but the liability to the disease increases as age advances. These statements may at first sight appear to be contradictory, but they are in reality not so, for it must be remembered that there are far fewer people living between the ages of say sixty and seventy, than between twenty and thirty. Allowing for the number of persons living at different ages the preponderance of the disease in the later periods of life is very considerable. The disease is more common among the poorer classes of society, and it occurs most frequently in servant-girls, and pale, anæmic, half-starved, needlewomen. It has been supposed that there is a connection between ulcer of the stomach and arrest of

the menstrual function, although there seems to be some doubt on this point. Cases are indeed recorded of suppression of the menses through cold having been immediately followed by symptoms of ulceration of the stomach. Respecting the causes of ulcer of the stomach we know very little. Many theories have been advanced, but as there is none which is universally accepted, it is needless to enter into a discussion of the subject. It has been thought that moral emotions, bad or insufficient food, excessive indulgence in spirituous drinks, and exposure to extreme cold may act as exciting causes, but this, to say the least, is problematic.

The ulcer is rarely smaller than a fourpenny-piece or larger than a crown; its shape is usually circular or slightly oval, and the edges are often sharp, as if a piece of the tissue had been punched out. Usually there is only one ulcer, but occasionally there are two, three, or even more. These facts are, of course, ascertainable only by a post-mortem examination, for as these ulcers are actually in the stomach, and not on the surface of the body, we have no means by which we could see them during life.

We must now consider the symptoms to which ulcer of the stomach gives rise. None is so constant as pain, and this, unfortunately, is only in very exceptional cases absent. It varies considerably in character and intensity, but possesses no distinctive character. It is usually experienced from a few minutes to a quarter of an hour after eating, and is especially apt to occur after taking indigestible food. It does not cease until digestion is completed, or until the food is rejected by vomiting. It may also be excited by exposure to cold, mental excitement, or severe bodily exertion, and is usually increased by external pressure and by tight clothing. The pain is often felt at the pit of the stomach, or a point a little above this, or it may even be experienced in the middle of the back.

Another symptom is vomiting, which is absent in very few cases. It is almost always accompanied or preceded by pain in the stomach, which is relieved by the vomiting. The vomit usually consists of food in different stages of digestion. *Hæmatemesis* is much less common, but when blood is thrown up in large quantities mixed with food, it is, with certain limitations, indicative of the complaint now under consideration. Slight bleeding often escapes notice, because the effused blood does not induce vomiting, but passes off in the stools, which are scarcely ever examined unless there is some special reason for so doing. In copious hæmorrhage a portion of the blood always escapes by the bowels as a blackish tarry-looking substance. When hæmatemesis has once occurred it nearly always returns, either because the clot which is formed is dissolved out by the gastric juice, or forced out by the movements of the stomach, or because fresh tissue is opened up by the extension of the ulcer. Small bleedings do not materially disturb the general health, but a copious hæmorrhage may produce fainting, or even death. Nothing is more likely to favour bleeding than the congestion of the stomach, resulting from over-indulgence in food, or some other similar cause.

Dyspepsia, or difficult digestion, as shown by lack or perversion of the appetite, by increased thirst, unpleasant taste in the mouth, weight at the pit of the stomach, flatulence, and eructation of acid fluids, is very common. Notwithstanding these digestive derangements, the nutrition is by no means always

impaired, and the sufferer may for a long time remain fat and plump, so that the serious nature of the illness is apt to be overlooked. When, however, these symptoms go on uninterruptedly for years, as they are apt to do, the sufferer gradually loses flesh and strength, and becomes more and more pale and wasted.

Gastric ulcer is almost invariably accompanied by a confined state of the bowels. It would seem, probably, that there is a kind of sympathy between the stomach and bowels, and that the sluggishness of the latter is induced by the condition of the former. There is often considerable mental depression; in fact, in a disease which usually lasts for months or years, which at every meal reminds the patient of his condition, which is constantly exhausting his strength, causing him violent pain, and disturbing his rest, it is but natural that there should be some depression of spirits.

There are certain complications of ulcer of the stomach which merit a brief consideration. In the first place the ulcer may eat its way right through the walls of the stomach and allow the contents to be poured out into the abdominal cavity. Under these circumstances death nearly always occurs in two or three days from shock. Sometimes by good fortune the ulcer may have become adherent to some other organ, as the liver or spleen, so that when perforation occurs the fluid is prevented from being poured out, and no great damage is done. In exceptional cases perforation is the first indication of the existence of the hitherto latent disease. The occurrence of this condition is indicated by the onset of severe pain at the pit of the stomach, which soon spreads over the whole belly; the abdomen becomes swollen, and there is great anxiety, with rapidly increasing prostration. These indications of the giving way of the coats of the stomach usually occur after a full meal, or perhaps from some sudden exertion, as that produced by vomiting, coughing, sneezing, &c. Another complication is the occurrence of consumption. People who have ulcer of the stomach sometimes become consumptive, but whether these two conditions stand in the relation of cause and effect, we cannot say.

It must be admitted that it is not always an easy matter to distinguish ulcer of the stomach from other diseases. In many cases the nature of the complaint is perfectly clear, but in others it is far from being so. One often meets with pale sickly girls or women who complain of menstrual disorders, and have indigestion, and pain, and tenderness at the pit of the stomach. The great problem to be solved is whether they have ulcer of the stomach, or are only fanciful and hysterical. In any doubtful case it is much better to act upon the supposition that they have the more serious disease—ulcer. This is perfectly justifiable, because in the morbid conditions which are liable to be mistaken for gastric ulcer, the strict diet, and other measures adopted for its treatment are likely to prove, on the whole, beneficial. It is often extremely difficult to distinguish between ulcer and cancer of the stomach; we have considered the chief points of difference between them when speaking of the latter disease. (*See CANCER OF THE STOMACH*, p. 169.)

Ulcer of the stomach is undoubtedly a serious complaint, but the large majority of patients completely recover. It is probable, as we have said, that many cases never come under the care of the physician at all, and that healing occurs

spontaneously. When there is copious bleeding the disease must have progressed deeply, and we consequently feel less sanguine as to the result. The loss of blood is dangerous, moreover, on account of the exhaustion it produces. When perforation occurs we must fear the worst, although the case is by no means hopeless. Severe persistent vomiting, and long tormenting pain are unfavourable signs; they ultimately exhaust the strength, and so impair the prospect of recovery.

We have no specific remedy for ulcer of the stomach. We can no more cure an ulcer by the administration of any one particular medicine than we can mend a broken leg by the same means. The only way in which we can effect a cure is to follow a rational and systematic course of treatment. It must always be remembered that the ulcer will heal by itself, unless prevented from so doing by external causes, and our endeavour should be to place the diseased organ under such conditions that all causes which interrupt the curative process are as far as possible eliminated. This fundamental law of treatment is, however, always violated, unless we make it our first rule to allow no solid food to be taken, or at least none which cannot by mastication be converted into a soft pulpy mass. One of the best articles of diet in these cases is milk. It contains in itself all that is necessary for the nutrition of the body, and has, moreover, the special advantage in the treatment of ulcer of the stomach, that the soft clot which it forms is far less irritating to the ulcerated surface than are other substances, such as hard-boiled eggs, pieces of meat, bread, cabbage, potato, &c. The success which attends the practice of restricting the patient to an exclusively milk diet is very great. The milk should be given in small quantities, rarely exceeding a tea-cupful at intervals of two hours, and in severe cases, where there is frequent vomiting, the amount must be restricted to table, dessert, or even tea-spoonfuls. Long fasting is undesirable, and it is advisable that the patient, if awake, should take the milk at intervals during the night. The milk is often better borne when mixed with a little well-boiled arrow-root or biscuit powder, since its coagulation in the stomach in masses is thereby prevented. The milk should not be taken too hot, but there is no objection to its being tepid, unless, indeed, there is a tendency to bleeding, when of course everything must be cold. Butter-milk may be used as a substitute for milk when it in its ordinary form appears to disagree, or it may be diluted with water, or with soda water which has been allowed to stand till the greater part of the effervescence has subsided. In certain cases the milk is not easily digested, but gives rise to flatulence, acidity, increased pain, and even vomiting. In elderly people milk occasionally fails to nourish, and unless a different diet be adopted emaciation and loss of strength are apt to ensue.

There is another article of diet which is even less likely than milk to inflict injury on the stomach, and that is essence of beef. We append several formulæ for the preparation of this substance.

Essence of Beef, No. 1.—Take one pound of fresh beef, free from fat, and pour over it half a pint of soft water, or rather less; add five or six drops of pure hydrochloric acid, obtained from the chemist's, and half a teaspoonful of common salt. Stir it well, and leave it for three hours in a cool place. Then pass the fluid through

a hair sieve, pressing the meat slightly, and adding gradually towards the end of the straining a little more water. The liquid thus obtained is of a red colour, possessing the taste of soup. It should be taken cold, a tea-cupful at a time. If preferred warm, it must not be put on the fire, but heated in a covered vessel placed in hot water.

Essence of Beef, No. 2.—Take one pound of gravy beef, free from fat and skin, chop it up very fine, add a little salt, and put it into an earthen jar with a lid, fasten up the edges with thick paste, such as is used for roasting venison, and place the jar in an oven for three or four hours. Strain through a coarse sieve, and give the patient two or three teaspoonfuls at a time.

Essence of Beef, No. 3.—Cut up in small pieces one pound of lean beef from the sirloin or rump, and place it in a covered saucepan, with half a pint of cold water, by the side of the fire for four or five hours, then allow it to simmer gently for two hours. Skim it well, and serve.

These are formulæ on which implicit reliance may be placed, but as it is always desirable in these cases to have a variety, we give two others. It must be remembered that even a slight change in the mode of preparation affords appreciable difference in the taste.

Beef Essence, No. 4.—Take one pound of rump steak, mince it like sausage-meat, and mix it with one pint of cold water. Place it in a pot at the side of the fire to heat very slowly. It may stand two or three hours before it is allowed to simmer, and then let it boil gently for fifteen minutes. Skim and serve. The addition of a small table-spoonful of cream to a tea-cupful of this beef tea renders it richer and more nourishing. Sometimes it may be thickened with a little flour or arrowroot, but only in exceptional cases, and when the patient is on the high road to recovery.

Beef Essence, No. 5.—Take one pound of gravy beef, free from skin and fat, chop it up as fine as mincemeat, pound it in a mortar with three table-spoonfuls of soft water, and let it soak for two hours. Then put in a covered earthen jar with a little salt, cementing the edges of the cover with pudding paste, and tying a piece of cloth over the top. Place the jar in a pot half full of boiling water, and keep the pot on the fire four or five hours. Strain off through a coarse sieve (so as to allow the smaller particles of meat to pass) the essence, which will then amount to about a quarter of a pint. Give two or more table-spoonfuls occasionally.

Burrough's Beef and Iron Wine is a reliable preparation, and mixed with water is often retained when everything else is rejected.

With the exception of the essence of beef or milk, and perhaps a little soup containing the white of eggs, or barley water, nothing else should be taken, at least, in the beginning of the treatment. Vegetables, fruits, brown bread, and oatmeal gruel are especially injurious in ulcer of the stomach; we draw especial attention to this fact, because they are often supposed to be perfectly innocuous.

It may be desirable in cases in which the symptoms are severe to give the stomach an entire absolute rest, and to feed the patient solely by injections. The best injection to use for this purpose is what is known as the meat-pancreas injection. It is made as follows:—Take about five ounces of finely-scraped meat, chop it still finer, add to it five and a half ounces of finely-chopped sweetbread free from fat, then add about three ounces of lukewarm water, and stir to the consistence of

a thick pulp. This is given as an enema, care having been taken to wash out the bowel with water about an hour before. In explanation of the name it should be stated that the sweetbread is known technically as the pancreas. By the use of this injection a person can be nourished for a long time without experiencing any sensation of hunger. This somewhat disagreeable mode of treatment has fortunately to be resorted to only in severe cases, although the results are highly satisfactory.

Besides resting the stomach it is very desirable to prevent by every means in our power the long-continued collection of acids in the stomach. This object is usually effected by the administration of Carlsbad salt, which consists chiefly of common salt, carbonate of soda, and sulphate of soda or Glauber's salts. Common salt promotes digestion, carbonate of soda diminishes the excess of acidity of the contents of the stomach, and sulphate of soda aids in their expulsion from the stomach into the intestines. The natural or artificial Carlsbad salt is obtainable from any chemist, and in these cases is best used every morning as follows:—One table-spoonful of the salt is dissolved in a pint of lukewarm water, and of this the patient drinks, fasting, about a fourth part, and repeats this quantity every ten minutes, so as to be about three-quarters of an hour in taking the whole amount. Then he is to wait half an hour longer before he takes his breakfast, which is usually followed by one or two watery discharges. If he have more than two, or none at all, the quantity of salts taken the next day must be regulated accordingly, but the amount of water in which the salt is dissolved is to remain the same—one pint.

For how long should this restricted diet be resorted to? One cannot lay down any absolute rule as regards time, and one has to be guided entirely by the condition of the patient. After a few days the pain and vomiting usually cease, and the healing of the ulcer advances so rapidly that after two or three weeks the patient may gradually return to a more solid diet. At first the greatest care should be taken that the convalescent's stomach is not taxed with the digestion of any food which is not easily assimilable. The following mode of treatment is largely adopted in Germany, and is in strict conformity with the rules already laid down. The patient is confined to bed during the whole course of treatment, and active movements of the body are avoided as much as possible. Hot poultices are applied to the abdomen, or if there is any tendency to hæmorrhage, a bag of ice. During the first few days the Carlsbad salts (a table-spoonful in a pint of lukewarm water) are given every morning. The diet consists entirely of milk and extract of beef, with the exception of a few pieces of rusk, which must not be swallowed until they have become thoroughly softened and masticated. All the food should have a lukewarm temperature unless there are signs of bleeding, when everything must be cold. After from two to three weeks the patient is placed on a light diet, consisting of pigeon, chicken, purée of potatoes, soups, wheat bread, &c., and after eight days longer anything may be taken which is not absolutely indigestible or injurious.

Perhaps it may be thought that we ought to say something with regard to medicinal treatment of this complaint, but if the foregoing directions are carried out in their integrity no medicine will be required. In some cases benefit is derived from the administration of arsenic according to Pr. 40. We would advise our readers

to study carefully the case of vomiting quoted from William Hunter. (*See VOMITING.*) Directions for treating medicinally many of the most troublesome symptoms of gastric ulcer, such as vomiting (*see VOMITING*) and hæmatemesis (*see BLEEDING FROM THE STOMACH*), have already been given.

When perforation occurs—that most disastrous event in the course of gastric ulcer—the measures consist in the administration of large doses of opium (fifteen drops of laudanum in a little beef tea as an enema every three hours) or hypodermic injections of morphia, so as to keep the patient constantly drowsy, absolute rest, abstinence from all food, and hot fomentations, or ice-cold compresses to the abdomen. Under these distressing circumstances the highest possible medical skill should be obtained. Give nothing whatever by the mouth—not even a drop of water—and remember that these cases are not absolutely hopeless, and that whilst there is life there is hope. Should the patient rally, the strength will have to be supported by enemata. The following is a good formula for an injection:—Mix four ounces of extra strong beef-tea, one ounce of cream, and half an ounce of brandy or an ounce of port wine.

Even when the ulcer has entirely healed the patient may require treatment for various sequelæ dependent for their production on the contraction of the scar, or other damage the stomach may have sustained. They will usually be found to assume the form of indigestion, and are best treated by the remedies indicated whilst speaking of that complaint. The patient should be kept upon a light, easily digestible diet for some time after the beginning of the convalescence, the main object being to avoid taxing the powers of the stomach more than is absolutely necessary. It must not be forgotten that relapses in this disease are not infrequent, and caution in the use of food is imperative, even after complete recovery.

People who are supposed to be liable to the formation of ulcer in the stomach would do well to be very careful with regard to what they eat and drink. Pale, sickly young women, who are supposed to have a tendency this way, must avoid taking acids and irritating food, especially when the stomach is empty. They should always restrain powerful and prolonged acts of vomiting, and must by every means in their power endeavour to improve the general condition of the health.

VOMITING.

Vomiting, as we have already seen, is often one of the most distressing symptoms of dyspepsia. It is not unfrequently a concomitant of some of the most serious disorders of the stomach, such as ulcer and cancer. It occurs moreover as a symptom of many other disorders besides those of the stomach. Thus it not uncommonly marks the onset of some of the fevers, such as measles or scarlet fever, and is not unfrequently the first indication of the approaching illness. It is a constant and important feature in inflammation of the brain. It is important to be able to distinguish vomiting arising from disease of the brain from the sickness which accompanies stomach disorder, or we may be in danger of confounding a very grave disease with a mere temporary indisposition. To facilitate the diagnosis we

have arranged the peculiarities which characterise these two forms of vomiting side by side in parallel columns.

Brain Vomiting.

1. There is little or no nausea, and the vomiting continues in spite of the discharge of the contents of the stomach.
2. There is no tenderness over the stomach, and pressure is borne without inconvenience.
3. The tongue is clean, the breath sweet, and the bowels obstinately confined.
4. Headache comes on early, and is a prominent symptom.
5. The stomach is emptied without effort.
6. There is no disgust for food.

Stomach Vomiting.

1. The nausea is relieved, at all events temporarily, by the discharge. It returns directly food is taken.
2. There is tenderness over the stomach, and pressure induces an inclination to retch.
3. The tongue is dirty, the breath offensive, and there are griping pains in the stomach with diarrhoea.
4. Headache comes on after the other symptoms.
5. The vomiting is preceded by retching.
6. There is complete disgust for food.

These statements must, of course, be taken with a certain amount of qualification, but, speaking generally, they are correct. We give the rule, but disregard the exceptions.

Vomiting, and especially morning vomiting, is of frequent occurrence in those who habitually indulge to excess in alcoholic liquors. In the victims of chronic alcoholism, or, to use less refined phraseology, in drunkards, the vomiting usually occurs before breakfast, and is often excited by the act of cleaning the teeth. In women, a common cause of morning vomiting is pregnancy, or some disorder of the womb. In some cases it occurs only in the morning, and is excited by the first waking movements; in others, the vomiting occurs not only in the morning, but frequently during the day, returning whenever food is taken. It may be so severe that the stomach rejects all nourishment, and the patient is quickly reduced to a very critical condition. Sometimes the vomiting is absent in the morning, but comes on later in the day, and increases towards evening. Many women are troubled with nausea and vomiting during the whole time they are suckling. Cases of vomiting are occasionally met with for which no adequate cause can be detected; the food is rejected without pain and without nausea, and sometimes so suddenly that the patient has hardly time to escape from the table.

Next as to the treatment of vomiting. Of late years no remedy has been more extensively employed in the treatment of this complaint than ipecacuanha wine. It should be given in drop doses in a little water three times a day or every hour, according to the urgency of the symptoms. A tea-spoonful of the mixture (Pr. 50) contains a drop of ipecacuanha wine. It is essential that it should be given in the manner here indicated. It often aggravates the mischief if given in larger doses, and seldom succeeds if given with other drugs, or in any other vehicle than water. Ipecacuanha wine is not to be used indiscriminately in the treatment of vomiting; there are some forms in which it acts like a charm, and there are others in which it does little or no good. Fortunately the indications for the use of ipecacuanha in vomiting are perfectly well understood, and for the accuracy

of our knowledge of this subject we are indebted to the untiring industry of one of our most distinguished hospital physicians. In the vomiting of pregnancy ipecacuanha wine is undoubtedly by far the best remedy. When the sickness occurs the first thing in the morning, a dose of the medicine should be given on awaking, and before the patient makes even the slightest movement. When the vomiting is most severe towards evening, ipecacuanha occasionally fails, and then *nux vomica* (Pr. 44) may be employed with advantage. The *nux vomica* and ipecacuanha are occasionally given in alternate doses. In obstinate cases belladonna sometimes succeeds. Twenty or thirty drops of the tincture should be administered in water every three or four hours. In the vomiting occurring during suckling, ipecacuanha usually acts like a charm. This mode of treatment naturally fails to give relief when the symptoms are due to displacement of the womb, and then usually nothing but local measures will prove of avail. Morning vomiting sometimes accompanies general weakness, and is met with in convalescents from acute illnesses. This form is readily controlled by ipecacuanha.

The ipecacuanha proves of equal value in many forms of children's vomiting. Thus it will usually remove or lessen the vomiting of whooping-cough, when it is due to the violence of the cough. Sometimes in children the vomited matter is composed of large hard lumps of curdled milk; ipecacuanha does little good in these cases. If diarrhoea is present, one-third of lime-water mixed with the milk is the best remedy; but if the child is constipated, half a tea-spoonful of bicarbonate of soda to a pint of milk will do more good. Should both the lime-water and the bicarbonate of soda fail to afford relief, it may be necessary to withhold milk for a time, and to feed the child exclusively on sopped bread, water gruel, and chicken or veal broth. Young children, often only a few weeks old, suffer from a form of vomiting, the characteristic feature of which is the suddenness of its occurrence. No sooner is the milk swallowed than without any effort on the part of the child it is forcibly expelled, being sometimes shot out through both the nose and mouth. Diarrhoea may co-exist, but more frequently there is constipation. The child may be reduced almost to a skeleton by the continuous vomiting. The best remedy for this complaint is one of the sugar and grey powders (Pr. 71) given every two or three hours.

In children brought up by hand, attention to feeding will often do more than anything to check vomiting. The great point is to dilute the milk. For a child a month old the milk should be mixed with an equal quantity of water. Of this, from a pint to a pint and a half should be taken in the twenty-four hours. As the child grows older, rather less water should be added. The following food will be found useful for children whose digestive powers are weak, or who are suffering from persistent vomiting. Soak a scruple of gelatine in a little cold water for a short time, and then boil it in half a pint of water till it is dissolved; this usually takes from ten to fifteen minutes. Just before finishing the boiling, add milk, with some arrowroot made into paste with cold water, and afterwards some cream. The proportion of milk, cream, and arrowroot will depend on the age of the child. For an infant less than a month old, three or four ounces of milk, a tea-spoonful of arrowroot, and half an ounce of cream, to half a pint of gelatine-water, would be

about right; for older children the milk may be increased to a half or two-thirds. Should even this fail, and the vomiting continue, one might try milk diluted with three or even four times its quantity of very thin arrowroot-water; or the child might be fed on cream and water only—one part of cream to three or four of water.

In the distressing morning vomiting of drunkards, arsenic will effect a cure with almost unfailing certainty, and will simultaneously improve the state of the stomach, and restore both appetite and digestion. The vomit in these cases is generally intensely bitter and sour, and of a green colour. It is usually accompanied by great straining and distress, and generally very little or nothing is ejected, and then it is called "dry vomiting." The arsenic mixture (Pr. 40) may be employed, a tea-spoonful being taken four times a day, and the first dose half an hour before rising. Ipecacuanha will sometimes succeed in these cases, but arsenic acts far more certainly.

In that form of vomiting to which we have referred as coming on suddenly and without pain or nausea, arsenic employed as above will nearly always succeed; ipecacuanha will prove almost equally efficacious. Should there be constipation it will be as well to get the bowels thoroughly open by some mild aperient before commencing treatment.

The vomiting of cancer and ulcer of the stomach may yield to ipecacuanha, but sometimes this fails, and then arsenic may be employed. Sometimes the arsenic mixture (Pr. 40) succeeds when almost everything else has been employed in vain.

Alum in from six to ten grain doses, dissolved in half an ounce of water, sometimes checks obstinate vomiting occurring in consumptive patients, especially when it is brought on by the cough.

We have by no means exhausted our list of remedies for vomiting. In the treatment of this complaint bismuth has long enjoyed a deservedly high reputation. It is commonly given in combination with hydrocyanic acid; three drops of dilute hydrocyanic acid may be added to each dose of the bismuth mixture (Pr. 18). We have already insisted on the necessity of giving bismuth before meals and not after. Chloroform may be used for the same purpose, two or three drops being given in a wine-glassful of water. Creasote will sometimes succeed when other remedies have failed. The dose is three drops, which any chemist will make into a pill for you. It should be given either three times a day or every four hours, about half an hour before meals. Often enough ten drops of laudanum in a little water, or a hypodermic injection of morphia, will succeed better than anything. Sometimes an effervescing mixture will speedily allay the irritability of the stomach. In many cases simple soda-water, with or without brandy, answers admirably. A bag of ice or a blister applied to the pit of the stomach often succeeds, and small pieces of ice slowly swallowed are useful. The spinal ice-bag does good in sea-sickness (see SEA-SICKNESS), and might be used in other forms of vomiting, as, for example, the vomiting of pregnancy. Dry champagne is often retained when everything else is rejected. Wyeth's Soda Mint or Neutralising Tablets are useful.

But after all, the regulation of the diet, both as regards quantity and quality, is the great thing to be aimed at. In illustration of this fact we cannot do better than quote a most striking and instructive case recorded by the celebrated Dr.

William Hunter. "Many years ago," he says, "a gentleman came to me from the eastern part of the city with his son, about eight or nine years old, to ask my advice for him. The complaint was great pain in the stomach, frequent and violent vomiting, great weakness, and wasting of flesh. I think I hardly ever saw a human creature more emaciated or with a look more expressive of being near the end of all the miseries of life. The disorder was of some months' standing, and from the beginning to that time had been daily growing more desperate. He was at school when first taken ill, and concealed his disorder for some time; but growing much worse he was compelled to complain, and was brought home to be more carefully attended. From his sickly look, his total loss of appetite, besides what he said of the pain which he suffered, but especially from his vomiting up almost everything which he swallowed, it was evident that his disorder was very serious.

"Three of the most eminent physicians of the time attended him in succession, and tried a variety of medicines without the least good. They had all, as the father told me, after sufficient trial, given the patient up, having nothing further to propose. The last prescription was a pill of solid opium, for in the fluid state, though at first the opiate had stayed some time upon his stomach, and brought a temporary relief, it failed at length, and, like food, drink, and every medicine which had been given, was presently brought up again by vomiting. The opiate *pill* was therefore given in hopes that it would elude the expulsive efforts of the stomach. It did so for a time, but after a little use, *that* likewise brought on vomiting. Then it was that his physician was consulted for the last time, who said that he had nothing further to propose.

"Though at first the boy professed that he could assign no cause for his complaint, being strictly interrogated by his father if he had ever swallowed anything that could hurt his stomach, or received any injury by a blow or otherwise, he confessed that the usher in the school had grasped him by the waistcoat at the pit of the stomach, in a peevish fit, and shaken him rudely, for not having come up to the usher's expectation in a school exercise; that, though it was not very painful at the time, the disorder came on soon after. This account disposed the father to suspect that the rude grasp and shake had hurt the stomach. With that idea he brought him to me, as an anatomist, that an accurate examination might, if possible, discover the cause or nature of the disorder.

"He was stripped before the fire, and examined with attention in various situations and postures, but no fulness, hardness, or tumour whatever could be discovered; on the contrary, he appeared everywhere like a skeleton covered with a mere skin, and the abdomen was as flat, or rather as much drawn inwards, as if it had not contained half the usual quantity of bowels.

"Having received all the information I could expect, and reflected some little time upon the case, I wished to speak with the father in another room, and, to give my patient some employment as well as refreshment, asked him to take a little milk in the meantime. But his father begged that taking anything into his stomach might be put off till he got home, because he was certain that it would make him sick. 'Just before we set out,' said he, 'I gave him a little milk, but

he was sick and brought it all up in the coach, before we had got many paces from the house.'

"In the adjacent room I said to the father, 'This case, sir, appears to me so desperate that I could not tell you my thoughts before your son. I think it most probable, no doubt, that he will sink under it; I believe that no human sagacity or experience could pretend to ascertain the cause of his complaint, and without supposing a particular or specific cause, there is hardly anything to be *aimed at* in the way of a cure. Yet, dreadful as this language must be to your ear, I think you are not to be without hope. As we do not know the cause, it may happen to be of a temporary nature, and may of itself take a favourable turn; we see such wonderful changes every day in cases that appear the most desperate, and especially in young people. In them the resources of nature are astonishing.'

"Then he asked me if I could communicate any rules or directions for giving him a better chance of getting that cure from nature which he saw he must despair of from art.

"I told him that there were two things which I would recommend. The first was not so important, indeed, yet I thought it might be useful, and certainly could do no harm. It was to have his son well rubbed for half an hour together with warm oil and a warm hand, before a fire, over and all round his stomach, every morning and evening. The oil, perhaps, would do little more than make the friction harmless, as well as easy, and the friction would both soothe pain, and be a healthful exercise to a weak body.

"The second thing I had to propose I imagined to be of the utmost consequence. It was something which I had particularly attended to in the disorders of the stomach, especially vomitings. It was carefully to avoid offending a very weak stomach, either with the quantity or quality, of what is taken down, and yet to get enough retained for supporting life. 'I need not tell you, sir,' said I, 'that your son cannot live long without taking *some* nourishment; he must be supported to allow of any chance in his favour. You think that for some time he has kept nothing of what he swallowed, but a small part must have remained, else he could not have lived till now. Do you not think, then, that it would have been better for him if he had only taken the very small quantity which remained with him, and was converted to nourishment? It would have answered the end of supporting life as well, and perhaps have saved him such constant distress of being sick, and of vomiting. The nourishment which he takes should not only be in very small quantity at a time, but in quality the most inoffensive to a weak stomach that can be found. Milk is that kind of nourishment; it is what Providence has contrived for supporting animals in the most tender stage of life. Take your son home, and as soon as he has rested a little, give him *one* spoonful of milk; if he keeps it some time without sickness or vomiting, repeat the meal, and so on. If he vomits it, after a little rest try him with a small quantity, viz., with a dessert or even a tea-spoonful. If he can but bear the smallest quantity you will be sure of being able to give him nourishment. Let it be the sole business of one person to feed him. If you succeed in the beginning, persevere with great caution, and proceed very gradually to a

greater quantity, and to other fluid food, especially to what his own fancy may invite him, such as smooth gruel or panada, milk boiled with a little flour of wheat or rice, thin chocolate and milk, any broth without fat or with a little jelly or rice or barley in it, &c. &c.' We then went in to our patient again, and that he might be encouraged with hope and act his part with resolution, I repeated the directions with an air of being confident of success. The plan was simple, and perfectly understood. They left me. I heard nothing of the case till, I believe, between two and three months after. His father came to me with a most joyful countenance, and with kind expressions of gratitude told me that the plan had been pursued with scrupulous exactness, and with astonishing success; that his son had never vomited since I had seen him; that he was daily gaining flesh, and strength, and colour, and spirits, and now grew very importunate to have more substantial food. I recommended a change to be made by degrees. He recovered completely, and many years ago he was a healthy and very strong young man."

WARTS.

Warts are closely allied to corns. They occur most frequently on the hands or fingers of young people. They may be met with either singly or in large numbers. They are occasionally hereditary, and in these cases they not uncommonly correspond in number and position with those existing in one of the parents. In the majority of cases, however, warts exhibit a considerable degree of capriciousness in their appearance, period of duration, and disappearance. From their frequent occurrence on the hands of those often engaged in the examination of dead bodies, it would seem probable that the poison of decomposing animal matter is, under certain circumstances, capable of favouring their growth.

It is a common belief that the blood from a wart is capable of producing other warts on people with whose skin it may happen to come in contact; but the evidence on this point is, to say the least, inconclusive. It is even doubtful whether the ordinary warts which occur on the hands can be inoculated.

The arsenic treatment, to which we referred when speaking of corns, is well adapted for warts. The top of the wart should either be sliced off with a sharp knife, cut off with a pair of scissors, or destroyed with a drop of some caustic, such as nitric acid. It is then to be painted with the arsenic solution two or three times a day. In a short time it undergoes a change, and appears to break up into a number of pieces. It may then be removed or turned out without the slightest pain or difficulty.

There are several other means of getting rid of warts. Their vitality is low, and they are usually readily destroyed by the application of a caustic or astringent. The strong acetic acid known as the "glacial" acetic acid is often used for this purpose. It should be applied with a glass rod until the wart is pretty well sodden with the acid. It may have to be applied more than once, and care should be taken to prevent it from coming in contact with the surrounding skin, or it may cause a blister. Small warts occurring in numbers may usually be got rid of certainly and painlessly by keeping them constantly moist with a lotion made by adding

two drachms of dilute nitric acid to a pint of water. Lunar caustic is sometimes used for warts, but its action is, as a rule, too superficial to be of much service.

When warts or warty growths occur on the nose, lips, or any part besides the hands, chromic acid may be used. The solution is made by dissolving a hundred grains of crystallised chromic acid in an ounce of water. The solution is best applied by the aid of a pointed glass rod, or when a large quantity is required by means of a small glass tube drawn to a point. Only so much should be applied as will saturate the diseased growth, and it should not be brought in contact with the surrounding tissues. Any superfluous acid is to be removed by a piece of blotting-paper or wet lint. The application usually produces only a little temporary smarting, unless indeed, the part is ulcerated, when the pain is more severe and of longer duration. After the application of the chromic acid, it is a good plan to dress the part with lint dipped in lead lotion, as it relieves the soreness and restrains the inflammation. Under the influence of this treatment the growth usually rapidly wastes, in some cases being thrown off altogether, and in others undergoing a partial though distinct diminution in size. In the majority of cases one application suffices, the cure being complete in from four to eight days. When, however, the warts are very large, repeated applications may be necessary.

The application of a few drops of tincture of steel daily for several days will often cure a wart. It is best adapted to those forms which are moist and secreting.

Thuja occidentalis, a product of the evergreen known as *arbor vitæ*, is a good remedy for warts. Each wart should be painted three or four times a day with the tincture of thuja, small doses being also given internally.

When warts are provided with a little stalk or peduncle, as they are sometimes, they may be removed by the application of an elastic ligature. A small elastic ring, or a thin india-rubber thread such as may be drawn out of an old brace, may be applied to the base of the growth so as to constrict it pretty tightly, though not painfully. The continuous constriction will, in a few days, cause the wart to dry up and fall off.

WASTING PALSY—PROGRESSIVE MUSCULAR ATROPHY.

This curious disorder has only been recognised as a distinct affection since the year 1853. It is essentially characterised by a wasting of the muscles, there being no diminution of intelligence or of the sensibility of any part of the body. It occurs most frequently in young adults, and in middle-aged individuals, but even children are sometimes attacked. Men are more liable to it than women, and this probably depends on the greater and more sustained muscular exertion which men's occupations demand, and on their more frequent exposure to cold and wet. The influence of consanguinity in the production of this complaint is often well marked. In many instances the subjects of wasting palsy have been persons of good physical development, and not unfrequently they have been remarkable for their strength and activity. In the majority of cases the immediate cause of the disease is either excessive muscular exertion or exposure to cold. Many patients have attributed the onset of their symptoms to wearing damp apparel, to the immersion of the

limbs in cold water, to standing or sitting in a draught when hot, or to exposure to inclement weather. Particular sets of muscles which are of necessity in long continued action in persons following certain mechanical trades, as, for example, masons, milliners, shoemakers, and smiths, are those which are most frequently involved, and in these cases the wasting may be permanently limited to these parts. It has occasionally happened that the disease has followed a severe blow on the back, or some injury to the spine. Thus in the case of a boy of fifteen wasting of the muscles of the trunk and upper limbs followed a playful blow with the fist of one of his companions between the shoulders. In another instance the first symptoms of wasting of the muscles of the ball of the thumb occurred six months after the fall of a bale of cotton cloth on the nape of the neck. A curious case is recorded of a gentleman aged fifty-four, who suffered what he considered a slight injury. In jumping across a flower-bed for a wager, he came down heavily on his heels, and then fell backwards on his head. He was stunned for a time, but gradually recovered, and after some days' confinement to his bed appeared to be quite well again. It was, however, soon perceived that a great change had taken place in his habits. Having been extremely fond of manly sports and exercises—rowing, cricketing, riding, and the like—he discontinued to take part in any of these, although he continued to go every autumn to the Scotch moors for the purpose of shooting grouse. Five years after the accident, whilst engaged in the last-named sport, he perceived that his right leg had lost a part of its usual strength, and from that time the ordinary symptoms of wasting palsy developed themselves.

The symptoms generally come on very gradually. The tailor finds that he cannot hold his needle, the shoemaker cannot thrust his awl, the mason fails to wield his hammer, the gentleman experiences a difficulty in writing, in taking out his pocket-handkerchief, or putting on his hat. Some such incident directs attention to the affected limb, which is then discovered to be wasted and shrunk. In most cases the change begins in the upper limbs, most frequently of all in the hand, in the ball of the thumb especially, and in the ball of the right much oftener than in that of the left thumb. Next to those of the hand, the muscles of the shoulders are apt to be the earliest affected; sometimes those of the neck and face; less often some of the muscles of the lower limbs are the first to suffer. There seems to be a kind of caprice as regards the starting-point, but the muscles of which we have just been speaking are those which are ordinarily most employed by working men—a fact in favour of the theory that the disorder is sometimes the result of over-work. As the disease progresses the natural rounded contour of the limbs is replaced by an unsightly flattening, the bones stand out with unnatural prominence, giving the member the appearance of a skeleton clothed in skin. This may be carried to such an extent that the hand looks more like a claw than anything else. When the shoulder is affected the whole limb dangles powerlessly at the side. Sometimes, as we have seen, the disease extends to other parts of the body, and when the face is involved it is veiled, as it were, by an impenetrable mask, no emotion changes its unvarying aspect, and the expression is always solemn, stolid, and immovable. Sometimes the muscles of the mouth and cheeks waste away, and then the saliva dribbles out over the lips. The complaint sometimes induces a change in the voice,

which loses its register, and is finally reduced to a monotone. In extreme cases absolute immobility of the limbs or affected parts may result, but more commonly the various movements are still capable of being performed, though with greatly diminished force. Occasionally during the progress of the disease the wasted muscles exhibit curious flickering or tremulous movements, which can be seen going on under the skin. They are not sufficiently powerful to move the limb, and they commonly pass unnoticed by the patient himself. They afford a proof that the muscle is not yet dead. In some cases the progress of the disease is accompanied by a good deal of pain of a neuralgic character. In a few instances agonising pain has been a marked feature of the case. The general health remains unaffected, the intelligence is unimpaired, and the ordinary functions are usually performed with their accustomed regularity.

With the view of conveying a clearer idea of this terrible, though interesting malady, we give an abstract of one of the earliest recorded cases. The patient was a mountebank, aged thirty-two. From his own account it appears that one cold September night he slept on the muddy pavement of the streets, and in the morning on awaking found his right side quite benumbed. The warmth of a tavern fire soon restored both sensation and motion, but three weeks afterwards he noticed a weakness of the right hand, and from that time was no longer able to play the cornet-a-piston. For a year the weakness was confined to the muscles of the hand; he then passed another night in the cold and wet, and from that time felt a great weakness in his legs. This gradually progressed, and about a year later he was so weak that he had to come to the hospital. At the time of admission he could dress himself and walk, though with trouble, and could feed himself, and talk without difficulty. Speaking of his own condition, he said, "I am not ill, but my strength is gone, and my weakness increases daily. There is a feeling of great lassitude in my limbs, which torments me every hour, but especially on awaking from sleep." Still another year later and the unfortunate patient could not walk at all, neither had he the power to change his position without help. His food was given him, and he had to be put to bed just like a little child. His appetite was voracious, but he had the greatest difficulty in swallowing, and twice he was nearly choked by pieces of vegetable sticking in the throat. The only way to feed him was to place a spoon containing food right at the back of the throat; considerable efforts at swallowing on the spoon and its contents were then made, and the former being withdrawn, the food was in time swallowed. The saliva could not be got rid of, and constantly ran from the mouth. In trying to swallow liquids, the greater part was always returned. The power of articulation being lost, the wants were made known by nods, by the eyes, and by guttural, nasal sounds. The respiration was very incomplete, so that it seemed certain that the unhappy man, whose intelligence was unimpaired, was menaced every moment with suffocation. Finally he was seized with the then prevailing influenza, and being unable to expectorate the phlegm, was one morning found quite dead. This, it must be remembered, was an unusually severe case.

The course of this disease is essentially chronic, and its duration uncertain. It often happens that after destroying a group of muscles, its course is permanently

arrested. Even when progressive, its advance is seldom continuous, but is marked by repeated pauses and re-commencements, and the pauses may last for months or years at a time. Cases which can be traced to the effects of over-exercise usually do well.

WHITES.

Whites, or Leucorrhœa, a common complaint in women, may arise from a number of causes. A good injection may be made by dissolving a tea-spoonful of powdered alum in a pint of cold water. Gallic acid or tannic acid may be used in the same way. It is a good plan to combine the alum and tannic acid, dissolving a tea-spoonful of the former and half a tea-spoonful of the latter in the pint of water. Another good injection is a tea-spoonful of bicarbonate of potash or bicarbonate of soda in a pint of water. Common lime-water may be used for the same purpose undiluted. The injection should be used three times a day, or, at least, night and morning. It does not matter much what form of injecting apparatus is used, but one worked by squeezing an india-rubber ball is generally preferred, and it is essential that it should have a good long nozzle that can be introduced for some distance. The small glass syringes ordinarily sold are of comparatively little use. The patient should lie on her back, and raise the hips by means of pillows. The injection should be retained for four or five minutes, and the syringing should be performed thoroughly.

Pulsatilla is a good remedy for leucorrhœa, as for many other complaints peculiar to women. A table-spoonful of the mixture (Pr. 43) may be taken four times a day, and an injection used made by adding two tea-spoonfuls of tincture of pulsatilla to a pint of water. Hamamelis (Pr. 45) is also useful in this condition, and fifteen drops of Hazeline in a little water will often effect a speedy cure.

It must be remembered that leucorrhœa is not merely a local complaint, but depends on a relaxed condition of the system. It is often associated with anæmia (p. 92) and general debility (p. 207), and in these cases nothing does so much good as a course of quinine or iron. In the list of prescriptions we give several mixtures likely to prove of benefit; as, for example, Prs. 1, 2, 9, 11, and 63. When the ordinary preparations of iron disagree, there is nothing equal to Wyeth's Dealyed Iron, or Burrough's Beef and Iron Wine. Kepler's Malt Extract, and the malt extract and cod-liver oil are most useful. For diseases incidental to women a visit to Limpley Stoke often proves highly beneficial. Out-door exercise and a good nourishing diet are essential.

WORMS.

The round-worm is the commonest form from which man suffers. It is very like an earth-worm, for which in former times it was generally mistaken. It is usually some five or six inches long, and is lighter in colour and more pointed at the extremities than the earth-worm. Sometimes young ones are met with measuring not more than an inch or an inch and a half. These worms occur most frequently in young people. They live in the bowels, but sometimes make their way into the stomach, and are then usually quickly got rid of by vomiting. As a rule, there are only one or two, but occasionally large numbers are met with. A girl only eight years old

voided upwards of 200 in the course of a week, and the case is recorded of a soldier who passed 367 in six days. In another instance the patient got rid of 460 in a fortnight. This, however, is quite exceptional. The round-worm is met with



Fig. 10.—ROUND-WORM.
(a) A mouth enlarged.

all the world over, but is more common in some countries than in others. In the Southern States of North America it attacks almost every one, young or old, and especially the negroes. In the West India Islands, Brazil, Finland, Greenland, in parts of Holland, Germany, and France, it is also very common. The rural population suffer more than the dwellers in towns, and the inhabitants of low and damp localities more than

those who enjoy higher and drier abodes. The symptoms to which these worms give rise are, as a rule, not very decided; often enough there are no discoverable symptoms. When large numbers occur in a person of delicate constitution they may cause thirst, disturbed sleep, with grinding of the teeth, moroseness, with low spirits, pallid countenance, fetid breath, swelling of the belly, shrunken limbs, depressed appetite, slimy stools, itching of the nose, straining, and irritation of the back passage. It must be understood that the occurrence of such marked symptoms is exceptional.

The indications for treatment are to relieve the irritation of the bowels when present, to improve the general nutrition where that has suffered, but above all to expel the worms. The best remedy for getting rid of the worm is *santonine*, the active principle of wormseed. From two to four grains of the *santonine*, according to age, are to be mixed with a tea-spoonful or more of castor oil, and taken early in the morning before breakfast, repeating the dose two or three mornings successively. Every stool should be examined for worms. As soon as the intruders are got rid of, attention should be directed to the improvement of the general health. Iron (Frs. 3 and 4), quinine (Pr. 9), and cod-liver oil are likely to prove of advantage. Parrish's Chemical Food is useful. Plenty of out-door exercise, with, if possible, change of air, is likely to do good.

We cannot speak very confidently of the prevention of round-worm, because we are not certain how it enters our bodies. Probably, however, the careful cooking of all our food would prove a good safeguard, even in those countries and districts where the pest most abounds.

Tape-worm occurs most frequently where much pigs' flesh is consumed, and individuals who do not eat this meat are peculiarly exempt from the complaint. It is frequently observed among those who in their occupations are in the habit of putting knives used for cutting raw meat into their mouths; also among those who indulge in raw or very under-done meat. There can be no doubt that in this country tape-worm is often communicated by eating raw or imperfectly cooked beef. We need not enter into any detailed description of the tape-worm, for it is not likely to be mistaken for any other kind. It may vary in length from a yard to twenty feet. The head is at the part that tapers to a point. Usually small pieces or joints an inch or so in length are passed in the motions.

There can be no question that a large proportion of persons infested with tape-worm are unconscious of any departure from the state of perfect health, but there is as little doubt that in some instances functional derangements occur which are referable to the irritation it produces. Such are various uncomfortable sensations in the abdomen; pains resembling colic, sometimes felt when the stomach is empty, at others after certain articles of food; variable appetite, now excessive, now failing entirely; slight diarrhoea or constipation, and so on. Sometimes there is a constant craving for food, debility, irritability of the bladder, giddiness, noises in the ears, attacks of faintness, restlessness, wasting, and itching at the nose and back passage. This somewhat grave list of symptoms really contains nothing that is at all characteristic, and the only positive proof of the existence of the worm is the passage of the joints.

We will now consider the different remedies that may be employed for the expulsion of the worm.

The male shield-fern (*Aspidium felix mas*) is perhaps the oldest and most widely-known vermifuge. The patient must eat a very light tea, but no supper, and just before bedtime should swallow two table-spoonfuls of castor oil. On the following morning after the oil has acted he is to take either Pr. 35 or a tea-spoonful of the liquid extract of male shield-fern in a little milk. No food is to be taken until the bowels have freely acted, when the worm is usually expelled. The head should be carefully looked for.

The bark of the pomegranate root (*Punica granatum*) is also an ancient and extensively used remedy. Two ounces of the bruised bark, of the fresh root if possible, are to be macerated for twenty-four hours in two pints of water, to be then boiled down to a half, strained, and divided into three doses, one of which is to be taken at half-hourly intervals. The medicine is to be taken on an empty stomach, and must be repeated daily for four or five days. It is very desirable that the root from which the bark is obtained should be fresh.

Kousso—the flowers and tops of a plant known as *Brayera anthelmintica*—is a quick and good vermifuge, an especial favourite in Abyssinia, where tape-worm is very prevalent. The dose is half an ounce suspended in water, and it must be taken fasting. An objection to its use is that it is somewhat costly, but it might be tried in obstinate cases when other measures have failed.

It must be admitted that in some cases tape-worm proves extremely obstinate, but still persistence in treatment nearly always succeeds in getting rid of it at last.

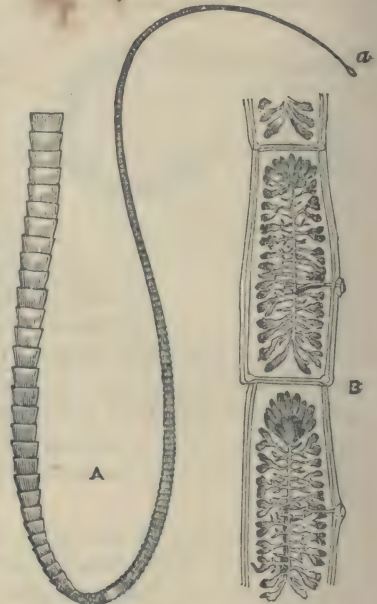


Fig. 11.—JOINTS OF TAPE-WORM.

A. Head (a), and a number of joints of body.
B. Microscopical structure of portions of three joints.

It is sometimes a good plan to give ten-drop doses of the liquid extract of male shield-fern three or four times a day for a week or more.

The best way of avoiding tape-worm is to make sure that your meat is always well done. Pork infested with "measles" should never be sold for food. Cooks and butchers should learn not to put their knives in their mouths, for it is a dangerous practice in more ways than one. Every one suffering from tape-worm—and for the matter of that any kind of worm—should disinfect every motion as soon as it is passed by pouring over it strong carbolic acid. This should be done not only for his own sake, but for the safety of others.

Thread-worms are of very common occurrence in children. They are little things looking just like a thread. They not unfrequently occur in immense numbers. They reside in quite the lower part of the bowel, from which circumstance they are



Fig. 12.—THREAD-WORMS.
(a) A mouth enlarged.

often known as seat-worms. When only a few are present, they give rise to no inconvenience, and are usually only accidentally discovered in the stools. When they are numerous, they often cause itching or tickling of the back passage, which is sometimes very distressing, especially towards night.

A capital mode of treatment is to inject into the back passage a pint of cold water containing a table-spoonful of tincture of steel. This may be repeated once or twice a day until the worms have disappeared. An injection of infusion of quassia, or of salt and water, answers equally well. It is very desirable to pay attention to the general health, and steel wine, Parrish's Chemical Food, or cod-liver oil may be advantageously administered.

The patient should avoid touching the neighbourhood of the back passage, and should be scrupulously clean in person and clothing. The common Hindoo custom of washing after every act of defecation should be adopted. People suffering from worms should sleep alone. The food should be well cooked, and the hands should be thoroughly washed before and after every meal.

WRITERS' CRAMP.

The term writers' cramp is not a happy one, for the affection is by no means confined to those who wield the pen. It—or a practically identical disorder—may be found in the artist, and may prevent him from painting in oils; or it may occur in the violinist or the pianist, and hinder the musical performances of either; it may be met with in the seamstress, or the smith, or the milkmaid, and may limit or destroy their powers of work. In fact, analogous conditions occur in almost all avocations. Of late years it has been met with in those female stage-dancers who are accustomed to balance themselves on the tips of their toes.

It is usually a chronic and slowly-developed disease. A difficulty is experienced in executing a particular movement, such as that of writing, or playing on a musical

instrument, other movements of the same limb being perfectly easy of performance. The patient experiences at first a sense of stiffness or weariness after unusually prolonged exertion. The author or copyist finds that his pen no longer readily obeys the mandates of the will, it will not move as it ought to, and the writing is altered in character and looks unnatural. The pianist makes blunders in striking the chords, the fingers falling on the keys they were intended to avoid. The movements, which from years of constant practice had become almost involuntary—a kind of second nature—are now performed with effort and difficulty. The violinist can no longer control the movements of his left hand, and his fingers feel cramped and stiff. The poor needlewoman can no longer ply her needle, she pricks her fingers in her now bungling efforts, and the stitches are irregular and the work badly done. The *première danseuse* is seized with severe pain or cramp in the calves of her legs, and is temporarily obliged to desist from her efforts.

The disturbances of movement which render writing or similar acts difficult or impracticable are highly characteristic. Such disturbances are in the first instance slight, and are only perceived when the effort has been long continued, being then felt as a sensation of extreme weariness. By degrees the symptoms become more and more marked, and make their appearance very soon after the commencement of the exertion, and ultimately directly the pen is taken in the hand, or even when the hand is merely placed in the required position. At first the difficulty may be overcome by a vigorous effort, but soon no amount of determination will enable the sufferer to perform the desired act. Other things are done without trouble, but that combination of movements, the performance of which is necessary for the patient to obtain a livelihood, resists every effort. In a fully developed case of writers' cramp, the patient may be unable to write a dozen lines to save his life, and yet he may be able to paint, or play the pianoforte, or carve without the slightest difficulty. So long as he refrains from attempting to perform the special act, whatever it may be, he differs in no respect from a healthy man; immediately he attempts to follow his pursuit he is reduced to a condition of perfect helplessness. The moment he abandons his effort and desists from the attempt he is all right again, and feels nothing abnormal. After a time, prolonged effort to perform the desired act brings on distinct cramp, or a jerking or shaking of the part. The cramp movements, which are at first limited to the thumb and fingers, are sometimes temporarily avoided by the writer, who adopts some mechanical device which leaves them at rest. The positions assumed by the patient in order to facilitate his writing, and the means he employs to prevent the occurrence of the spasm, are often very curious. One man will rest only the wrist on the paper, raising the elbow in the air; another supports the arm on the elbow, and writes with the wrist raised and free; a third steadies the right hand with the left; whilst a fourth takes the pen between the index and middle finger, or sticks it into a cork which he seizes with his whole hand. As a rule, no sooner has the patient trained himself to write in some such awkward manner, than the muscles of the forearm become subject to spasm, and he is no better off than before. Sometimes the sufferer succeeds with infinite trouble in learning to write with his left hand, but no sooner have his efforts been crowned with success than that hand too becomes affected.

All his labour is thus thrown away, and his condition is, if anything, worse than before.

It is instructive to notice the changes that occur in the handwriting consequent on the disease, and a comparison may be instituted with letters formerly written in health; it is often quite altered in character, because the patient has adopted a new method of using the pen when writing is possible. The strokes are coarse, imperfect, and unequal, and numerous irregularities and false strokes are to be observed; in the highest degree of the affection, after a few scarcely legible words, the writing becomes a mass of irregular strokes and curves, whilst in other instances the letters are mere trembling, undulating, or zigzag strokes.

In some instances the attempt to perform the special act produces spasm, not only in the muscles brought into action, but also in other parts. For instance, the attempt to write may bring on spasm, not only in the affected hand, but also in the face or neck. As a rule, the general health in no way suffers, and the physical strength may be equal to or even beyond the average. A man may be the victim of writers' cramp, and yet be apparently a perfect model of health.

The affection we have been considering seldom occurs before the age of thirty. As a rule, men suffer more frequently than women, but pianoforte-players' cramp is more often met with in females. It is said, too, that the male dancer never suffers from dancers' cramp. The principal cause of the disease is usually supposed to be excessive writing, or playing, or what not; but it must be remembered that it is of not unfrequent occurrence in those who have never over-exerted themselves in any way. It is most frequently observed in writers, secretaries, clerks, merchants, and *savants*; but it occurs also in those who write but little, and who think they have done wonders if they have signed a score of business letters. The spasm is said occasionally to arise from exposure to cold, but this is very doubtful. It is obvious that inconvenient tables, a bad position in writing, tight sleeves, and especially hard and pointed pens must favour the development of the disease, since they all increase the demands made upon the muscles and nerves employed in writing. It is certain, however, that steel pens are not exclusively to blame for producing this form of spasm, since it was known before they were invented, and occurs in those who use only quill pens.

In cases where the symptoms have existed for only a short time, relief may be confidently expected, provided that rest can be taken. If the symptoms have existed for many months, or if rest be impossible, our opinion will be more or less unfavourable. Many who were seriously threatened with writers' cramp are now free from the malady, because they rested; many who could not or did not rest have progressed from bad to worse.

The treatment consists primarily in attention to the removal of the cause. The discontinuance of all writing, playing, sewing, dancing, or whatever else may have led to the occurrence of the disease, or at least the limitation of such occupations to the greatest possible extent, is of vital importance. In recent and slight cases this alone will often effect a cure in a month or two. In severe cases absolute cessation from writing must positively be insisted on, and often enough nothing but a long rest, say of six months, or even a year, will effect a cure. Something may

perhaps be attempted before resorting to this serious measure in the way of assisting the patient by getting him to use good soft pens, and large cork pen-holders that may be grasped by the whole hand. We may mention incidentally that thick cork holders are a great convenience in writing even in health.

Electricity undoubtedly does good in some cases, but the exact form in which it should be employed—if at all—is a point that can be determined only by a medical consultation. Gymnastics, shampooing, tonics, and cold-water bathing may do good. In Vienna the following mode of treating dancers' cramp is adopted by the ballet-master: he either ties a handkerchief tightly above the ankle, or has the sufferer placed on a wooden cylinder, which she rolls backwards and forwards, whilst the whole weight of her body is supported on it. In this way the pain is relieved so that dancing can be resumed, but its return is not prevented.

A case is recorded of writers' cramp being cured by extract of physostigma. The patient was a clerk, aged thirty, intelligent and well educated. He had been ill three months, and was rapidly growing worse. Both hands were affected—the right most, though the left was first attacked. After writing a short time the fingers would be drawn up and cramped so that he could not use them, and his hand would start so that the pen would sometimes fly out of his fingers. His writing, which was formerly very good, had become so altered that his friends scarcely recognised it. The fingers of both hands trembled a great deal, just as they would in shaking palsy. He complained of severe numb and shooting pain in both hands, which he compared to neuralgia; it was most severe in the index-finger, and often kept him awake at night. The tip of the index-finger was very tender, and the pressure of the pen caused great pain. The hands perspired most profusely. He was ordered a thirtieth of a grain of extract of physostigma, to be taken every two hours in the form of a pill. He quickly improved. At the end of a fortnight his most distressing symptoms were relieved. The tenderness at the tips of the fingers was less, and he wrote better, for the effort caused less cramp and starting of the hand. In a few weeks the tremulousness, with the cramps and startings of his fingers and hands, left him, so that his writing gradually improved till it became as good as ever. In a little over two months he was cured. Till he took the physostigma he was daily growing worse, and from the time of beginning it he steadily and continuously improved.

Phosphorus (Prs. 53, 54) or hypophosphite of lime (Pr. 55) has been recommended in this complaint. Fellows' Compound Syrup of Hypophosphites—a teaspoonful three times a day in a little water—is most useful in many affections of the nervous system.

YELLOW FEVER. (See article on TYPHOID, TYPHUS, AND OTHER FEVERS, p. 529.)

PRESCRIPTIONS.

IN dispensing, solids are weighed and liquids measured. Any of these prescriptions copied out and sent to a chemist would be made up without difficulty. Pills or powders, and small bottles if securely packed, can be conveniently sent by post. The quantities here given are for adults. In the case of children a proportionately smaller dose must be administered, according to age. Although the quantities indicated are those usually employed, it may be necessary in special instances or in certain diseases to depart from the ordinary custom. These cases are pointed out in the text. Should any difficulty be experienced in taking the pills they should be silvered or varnished.

1.—*Iron Mixture.*

Tincture of perchloride of iron, two drachms.
Chloric ether, one drachm.
Glycerine, one drachm.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day.

2.—*Iron and Quassia Mixture.*

Tincture of perchloride of iron, half an ounce.
Chloric ether, forty minims.
Infusion of quassia, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day.

3.—*Citrate of Iron Mixture.*

Citrate of iron and ammonia, two drachms.
Syrup of orange-peel, half an ounce.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day.

4.—*Iodide of Iron Mixture.*

Syrup of iodide of iron, half an ounce.
Syrup of phosphate of iron, two ounces.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day.

5.—*Aperient Iron Mixture.*

Sulphate of magnesia, one ounce.
Sulphate of iron, half a drachm.
Dilute sulphuric acid, one and a half drachms.
Peppermint water, to eight ounces.
Mix. Two table-spoonfuls three times a day.

6.—*Saline Iron Mixture.*

Citrate of potash, three drachms.
Tincture of perchloride of iron, three drachms.
Chloric ether, one drachm.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day.

7.—*Effervescing Iron Mixture.*

Citrate of iron and quinine, a drachm.
Sulphate of quinine, eight grains.
Citric acid, eighty grains.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken every four hours, with one table-spoonful of the following :—
Bicarbonate of soda, eighty grains.
Water, four ounces. Mix.

8.—*Iron and Digitalis Mixture.*

Tincture of perchloride of iron, one drachm.
Infusion of digitalis, half an ounce.
Dilute phosphoric acid, one drachm.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day.

9.—*Tonic Quinine Mixture.*

Sulphate of quinine, sixteen grains.
Dilute sulphuric acid, half a drachm.
Water, to eight ounces.
Mix. Two table-spoonfuls to be taken three times a day before meals.

10.—*Strong Quinine Mixture.*

Sulphate of quinine, forty grains.
 Dilute sulphuric acid, half a drachm.
 Water, to eight ounces.
 Mix. Two table-spoonfuls or more every four hours.

11.—*Quinine and Iron Mixture.*

Sulphate of quinine, eight grains.
 Sulphate of iron, sixteen grains.
 Dilute sulphuric acid, eight minims.
 Water, to eight ounces.
 Dissolve and mix. Two table-spoonfuls three times a day.

12.—*Salicine Mixture.*

Salicine, four drachms.
 Hot water, eight ounces.
 Dissolve. When cold, an eighth part to be taken every two hours.

13.—*Ammonia and Bark Mixture.*

Carbonate of ammonia, forty grains.
 Liquid extract of bark, one ounce.
 Chloric ether, eighty minims.
 Syrup of orange-peel, one ounce.
 Decoction of bark, to eight ounces.
 Mix. Two table-spoonfuls every four hours.

14.—*Gentian and Soda Mixture.*

Bicarbonate of soda, two drachms.
 Dilute hydrocyanic acid, twenty-four minims.
 Compound infusion of gentian, to eight ounces.
 Mix. Two table-spoonfuls three times a day.

15.—*Gentian and Acid Mixture.*

Dilute hydrochloric acid, two drachms.
 Dilute hydrocyanic acid, twenty-four minims.
 Compound infusion of gentian, to eight ounces.
 Mix. Two table-spoonfuls three times a day.

16.—*Gentian and Senna Mixture.*

Compound infusion of gentian, four ounces.
 Infusion of senna, four ounces.
 Mix. Two table-spoonfuls three times a day.

17.—*Carminative Mixture.*

Powdered rhubarb, forty grains.
 Powdered ginger, forty grains.
 Bicarbonate of soda, eighty grains.
 Aromatic spirits of ammonia, two and a half drachms.
 Cinnamon water, to eight ounces.
 Mix. Two table-spoonfuls every four hours, or a single dose may be given.

18.—*Bismuth Mixture.*

Carbonate of bismuth, one and a half drachms.
 Carbonate of magnesia, one and a half drachms.
 Mucilage of tragacanth, one and a half ounces.
 Water, to eight ounces.
 Mix. Two table-spoonfuls every four hours.
 a quarter of an hour before meals.

19.—*Paregoric Mixture.*

Compound tincture of camphor, two drachms.
 Ipecacuanha wine, twenty-four minims.
 Tincture of henbane, one and a half drachms.
 Water, to eight ounces.
 Mix. Two table-spoonfuls every four hours.

20.—*Ipecacuanha and Squill Mixture.*

Ipecacuanha wine, two drachms.
 Tincture of squills, one drachm.
 Laudanum, half a drachm.
 Treacle, half an ounce.
 Water, to eight ounces.
 Mix. Two table-spoonfuls every four hours.

21.—*Carbonate of Ammonia Mixture.*

Carbonate of ammonia, forty grains.
 Chloric ether, two and a half drachms.
 Mucilage of acacia, two ounces.
 Water, to eight ounces.
 Mix. Two table-spoonfuls every four hours.

22.—*Ammonia and Senega Mixture.*

Carbonate of ammonia, half a drachm.
 Spirit of chloroform, one and a half drachms.
 Infusion of senega, to eight ounces.
 Mix. Two table-spoonfuls every four hours.

23.—*Creasote Mixture with Opium.*

Creasote, eight minims.
 Tincture of opium, sixteen minims.
 Spirit of chloroform, two drachms.
 Glycerine, one ounce.
 Water, to eight ounces.
 Mix. Two table-spoonfuls every four hours.

24.—*House Mixture.*

Sulphate of magnesia, two ounces.
 Powdered rhubarb, one drachm.
 Jalap, one drachm.
 Peppermint water, seven ounces.
 Mix. A sixth part for a dose.
 This "House Physic," or a similar preparation, is kept in the wards of nearly every hospital and infirmary.

25.—*Saline or Purgative White Mixture.*

Epsom salts, one and a half ounces.
Carbonate of magnesia, one drachm.
Peppermint water, to eight ounces.
Mix. Dose, an eighth part or two table-spoonfuls.

26.—*Rochelle Draught.*

Rochelle salt, half an ounce.
Syrup of ginger, a tea-spoonful.
Lemon-juice, two table-spoonfuls.
Water, four table-spoonfuls.
Mix and drink.

27.—*Emetic Draught.*

Sulphate of zinc, twenty grains.
Ipecacuanha wine, half an ounce.
Water, one ounce.
Mix. To be taken immediately. Its action may be aided by the free administration of warm water.

28.—*Diarrhœa Mixture.*

Dilute sulphuric acid, two drachms.
Tincture of opium, one drachm.
Spirit of chloroform, one and a half drachms.
Water, to eight ounces.
Mix. Two table-spoonfuls every four hours.

29.—*Astringent Mixture.*

Gallic acid, two drachms.
Dilute sulphuric acid, two drachms.
Water, to eight ounces.
Mix. Two table-spoonfuls every four hours.

30.—*Acetate of Lead Mixture.*

Acetate of lead, forty grains.
Dilute acetic acid, four drachms.
Cinnamon water, to eight ounces.
Mix. Two table-spoonfuls every four hours.

31.—*Bromide of Potassium Mixture.*

Bromide of potassium, two drachms.
Syrup of orange-peel, one ounce.
Water, to eight ounces.
Mix. Two table-spoonfuls three times a day.

32.—*Iodide of Potassium Mixture.*

Iodide of potassium, half a drachm.
Syrup of orange-peel, one ounce.
Water, to eight ounces.
Mix. Two table-spoonfuls three times a day.

33.—*Colchicum Mixture.*

Bicarbonate of soda, one drachm.
Colchicum wine, three drachms.
Water, to eight ounces.
Mix. Two table-spoonfuls three times a day.

34.—*Sulphuric Acid Mixture.*

Epsom salts, four ounces.
Dilute sulphuric acid, two drachms.
Peppermint water, to eight ounces.
Mix. Two table-spoonfuls three or four times a day.

35.—*Tape-worm Draught.*

Liquid extract of fern-root, one drachm.
Syrup of ginger, one drachm.
Water, to one ounce.
To be taken fasting.

36.—*Sal Ammoniac Mixture.*

Sal ammoniac, eighty grains.
Carbonate of ammonia, forty grains.
Camphor water, to eight ounces.
Mix. Two table-spoonfuls every four hours.

37.—*Sedative Draught.*

Bromide of potassium, twenty grains.
Syrup of chloral, one drachm.
Water, to one ounce.
Mix. The draught to be taken at bed-time.

38.—*Aconite Mixture.**

Tincture of aconite, half a drachm.
Water, to four ounces.
Mix. A tea-spoonful to be taken every ten minutes for the first hour, and subsequently hourly for six or eight hours, or longer if necessary.

39.—*Belladonna Mixture.**

Tincture of belladonna, half a drachm.
Water, to four ounces.
Mix. A tea-spoonful to be taken every quarter of an hour for the first hour, and subsequently hourly.

40.—*Arsenic Mixture.**

Liquor arsenicalis, half a drachm.
Water, to four ounces.
Mix. A tea-spoonful every three or four hours.

* Although many of these mixtures are almost tasteless, they are perfectly active, and the dose recommended should not be exceeded.

41.—*Gelseminum Mixture.*

Tincture of gelseminum, two drachms.

Water, to eight ounces.

Mix. Two table-spoonfuls every four hours.

To be taken cautiously, and the effects carefully watched. If dimness of vision or unsteadiness of gait ensue, the dose to be reduced by a third, or the intervals prolonged to six hours.

42.—*Arnica Mixture.*

Tincture of arnica, half a drachm.

Water, to four ounces.

Mix. A tea-spoonful every ten minutes for the first hour, and subsequently hourly.

43.—*Pulsatilla Mixture.*

Tincture of pulsatilla, half a drachm.

Water, to four ounces.

Mix. A tea-spoonful every ten minutes for the first hour, and subsequently hourly.

44.—*Nux Vomica Mixture.*

Tincture of nux vomica, half a drachm.

Water, to four ounces.

Mix. A tea-spoonful every quarter of an hour for the first hour, and subsequently hourly.

45.—*Hamamelis Mixture.*

Tincture of hamamelis virginica, half a drachm.

Water, to four ounces.

Mix. A tea-spoonful every hour for the first six or eight hours, and subsequently every three or four hours.

46.—*Tartarated Antimony Mixture.**

Tartarated antimony, half a grain.

Water, six ounces.

Dissolve. A tea-spoonful every quarter of an hour for the first hour; afterwards hourly.

47.—*Cantharides Mixture.**

Tincture of cantharides, half a drachm.

Water, to four ounces.

Mix. A tea-spoonful every two or three hours.

48.—*Corrosive Sublimate Mixture.**

Corrosive sublimate, half a grain.

Water, six ounces.

Mix. A tea-spoonful hourly.

49.—*Bryony Mixture.*

Tincture of bryony, half a drachm.

Water, to four ounces.

Mix. A tea-spoonful every hour.

* Although many of these mixtures are almost tasteless, they are perfectly active, and the dose recommended should not be exceeded.

50.—*Ipecacuanha Mixture.*

Ipecacuanha wine, one drachm.

Water, to eight ounces.

Mix. A tea-spoonful every hour.

51.—*Podophyllin Solution.*

Podophyllin (the resin), one grain.

Rectified spirit, two drachms.

Dissolve. Two or three drops on sugar every three hours.

52.—*Nitrite of Amyl Drops.*

Nitrite of amyl, eight minims.

Rectified spirit, half an ounce.

Mix. Three to five drops on sugar every three hours or oftener.

53.—*Phosphorus Solution.*

A saturated solution of phosphorus in ether.

Five drops in half a wine-glassful of water four times a day.

54.—*Phosphorus Capsules.*

Each containing one-thirtieth of a grain of phosphorus. One to be taken every three or four hours.

55.—*Hypophosphite of Lime Mixture.*

Hypophosphite of lime, one drachm.

Syrup, one ounce.

Water, to eight ounces.

Mix. One or two tea-spoonfuls three times a day.

56.—*Morphia Linctus.*

Solution of morphia, one and a half drachms.

Chloric ether, one and a half drachms.

Syrup of lemon, to four ounces.

A tea-spoonful occasionally when the cough is troublesome.

57.—*Squill and Opium Linctus.*

Oxymel of squill, ten drachms.

Compound tincture of camphor, five drachms.

Ipecacuanha wine, two and a half drachms.

Mucilage of acacia, to four ounces.

Mix. A tea-spoonful occasionally when the cough is troublesome.

58.—*Creasote Linctus.*

Creasote, four minims.

Glycerine, half an ounce.

Water, to four ounces.

Mix. A tea-spoonful when the cough is troublesome.

59.—*Confection of Sulphur and Senna.*

Confection of senna, ten drachms.

Sublimed sulphur, two drachms.

Mix. One or two tea-spoonfuls occasionally.

60.—*Aperient Pill.*

Compound colocynth pill, two grains.

Blue pill, one and a half grains.

Extract of henbane, one grain.

Powdered ipecacuanha, one third of a grain.

One pill to be taken at bed-time. Send a dozen.

61.—*Calomel Pill.*

Calomel, three grains.

Extract of henbane, a sufficient quantity.

Make a pill. To be taken at bed-time.

62.—*Blue Pill with Opium.*

Blue pill, twenty-four grains.

Opium, two grains.

Divide into twelve pills. One to be taken three times a day.

63.—*Sulphate of Iron Pills.*

Dried sulphate of iron, one drachm.

Syrup, twelve drops.

Make twelve pills. One to be taken three times a day.

64.—*Iron and Aloe Pills.*

Sulphate of iron, forty-eight grains.

Watery extract of aloe, twenty-four grains.

To make twenty-four pills. One to be taken three times a day for four days, then one twice a day for four days, and then one a day for another four days.

65.—*Dinner Pills.*

Extract of Barbadoes aloe, two grains.

Extract of nux vomica, half a grain.

Extract of gentian, one grain and a half.

Make a pill. One to be taken once or twice a day, half an hour before meals. Send a dozen.

66.—*Oxide of Zinc Pills.*

Oxide of zinc, two and a half grains.

Extract of liquorice, a sufficient quantity.

Make a pill. One or two every night at bed-time. Send a dozen.

67.—*Indian Hemp Pills.*

Extract of Indian hemp, half a grain.

Make a pill. One to be taken three times a day.

68.—*Sulphide of Calcium Pilules.*

Sulphide of calcium, two grains.

Sugar of milk, forty grains.

To make twenty pilules. One to be taken every two hours.

69.—*Lozenge Pills.*

Hydrochlorate of morphia, one thirty-sixth of a grain.

Extract of liquorice, three grains.

Compound powder of tragacanth, five grains.

To make a lozenge pill. One to be placed in the mouth and allowed to dissolve slowly when the cough is troublesome.

70.—*Tar Pills.*

Tar (*Pix Liquida*), two grains.

Lycopodium, one grain.

Make a pill. One every four hours.

71.—*Sugar and Grey Powders.*

Grey powder, two grains.

Powdered sugar, one drachm.

Divide into twelve powders. One four times a day.

72.—*Grey Powder and Rhubarb.*

Grey powder, three grains.

Rhubarb in powder, six grains.

Make a powder. To be taken at bed-time.

73.—*Calomel and Sugar Powders.*

Calomel, two grains.

Sugar, one drachm.

Divide into twelve powders. One every three or four hours.

74.—*Digestive Powders.*

Bicarbonate of potash, ten grains.

Bicarbonate of soda, ten grains.

Ginger, five grains.

Calumba in powder, five grains.

Mix. One three times a day, half an hour before meals.

75.—*Bismuth and Charcoal Powders.*

Carbonate of bismuth, ten grains.

Wood charcoal, ten grains.

Bicarbonate of soda, five grains.

Mix. To be taken three times a day, half an hour before meals.

76.—*Iron Powders.*

Reduced iron, seventy-two grains.
White sugar, a drachm.
Mix, and divide into twelve powders. One three times a day.

77.—*Phosphate of Lime and Iron Powders.*

Phosphate of lime, one grain.
Phosphate of iron, one grain.
Saccharated carbonate of iron, one grain.
White sugar, five grains.
Mix. One three times a day. Send two dozen.

78.—*Sulphide of Calcium Powders.*

Sulphide of calcium, twenty-four grains.
Sugar of milk, half an ounce.
Thoroughly mix, and keep in a well-stoppered bottle. Dose, five grains, or as much as will cover a sixpence, every four hours.

79.—*Santonin Powders.*

Santonin in powder, three grains.
Sugar in powder, twelve grains.
Mix. One at bed-time for a child from two to ten years of age; for an adult, two.

80.—*Dusting Powder.*

Oxide of zinc, one part.
Powdered starch, two parts.
Mix. For external application only.

81.—*Alum Gargle.*

Alum, two and a half drachms.
Honey, an ounce.
Rose water, a pint.
Mix. To be used three or four times a day.
About two table-spoonfuls to be taken in the mouth, and this should be repeated four times on each occasion.

82.—*Tannic Acid Gargle.*

Glycerine of tannic acid, two ounces.
Water, to a pint.
Mix. To be used three or four times a day.
About two table-spoonfuls to be taken in the mouth, and this should be repeated four times on each occasion.

83.—*Borax Gargle.*

Borax, five drachms.
Water, a pint.
Mix. To be used three or four times a day.
About two table-spoonfuls to be taken in the mouth, and this should be repeated four times on each occasion.

84.—*Cayenne Pepper Gargle.*

Tincture of capsicum, one hundred minims.
Dilute acetic acid, fifty minims.
Water, to half a pint.
Mix. To be used two or three times a day.

85.—*Turpentine and Ammonia Liniment.*

Liniment of turpentine, one and a half ounces.
Solution of ammonia, one and a half ounces.
Oil of cajeput, half a drachm.
Olive oil, to four ounces.
Mix. To be rubbed into the chest every night at bed-time.

86.—*Neuralgia Liniment.*

Aconite liniment, two parts.
Chloroform liniment, one part.
Mix and label "Poison—not to be taken." To be lightly painted over the painful part with a small brush. The application may be renewed several times in the course of the day. Care must be taken not to get it into cracks or cuts, and not to drop it into the eye.

87.—*Belladonna and Chloroform Liniment.*

Belladonna liniment, one part.
Chloroform liniment, two parts.
Mix. The liniment to be used once or twice a day.

88.—*Calomel Ointment.*

Calomel, one drachm.
Lard, one ounce. Mix.

89.—*Dilute White Precipitate Ointment.*

White precipitate, five grains.
Lard, one ounce. Mix.

90.—*Alkaline Lotion.*

Carbonate of soda, one tea-spoonful.
Water, one pint. Dissolve.

91.—*Sulphur Lotion.*

Flowers of sulphur, one tea-spoonful.
Glycerine, two table-spoonfuls.
Rose water, half a pint. Mix.

92.—*Evaporating Lotion.*

Rectified spirit, two and a half ounces.
Water, to half a pint. Mix.

93.—*Red Wash.*

Sulphate of zinc, twenty grains.
Compound tincture of lavender, two drachms.
Water, to half a pint. Mix.

94.—*Arnica Lotion.*

May be made by adding twenty drops of the tincture of arnica to half a cupful of water.

95.—*Hamamelis Lotion.*

Tincture of hamamelis, three drachms.
Water, to half a pint. Mix.

96.—*Hydrastis Lotion.*

Muriate of hydrastin, three grain.
Distilled water, three ounces. Dissolve.

97.—*Calendula Lotion.*

Add a tea-spoonful of tincture of calendula to half a cupful of water.

98.—*Compound Jalap and Bitartrate of Potash Powders.*

Compound jalap powder, twenty grains.
Bitartrate of potash, ten grains.
Mix to make a powder. One to be taken every alternate morning. Send three.

99.—*Effervescing Ammonia Mixture.*

Carbonate of ammonia, two drachms.
Water, eight ounces.
Two table-spoonfuls, with one table-spoonful of the following, to be taken every four hours, whilst effervescing :—
Citric acid, one hundred and thirty-six grains.
Water, four ounces. Mix.

100.—*Nitro-Glycerine Mixture.*

Nitro-glycerine solution, one percent., a drachm.
Water, to eight ounces.
A tea-spoonful or more every four hours, with an extra dose at the onset of each attack.
Martindale's nitro-glycerine tablets answer the same purpose.

101.—*Chian Turpentine Pills.*

Chian turpentine, six grains.
Flowers of sulphur, four grains.
To be made into two pills to be taken every four hours.

102.—*Picrotoxine Pills.*

Picrotoxine, a sixtieth of a grain.
Sugar of milk, a sufficient quantity.
To be made by first rubbing up the picrotoxine with sugar of milk, and then adding a little glycerine, or tragacanth. One at bed-time, and another in the early morning if necessary.

103.—*Hazeline Mixture.*

Hazeline, a hundred and sixty minims.
Water, to eight ounces.
Mix. A table-spoonful every four hours.

104.—*Hydrochloric Acid Gargle.*

Dilute of hydrochloric acid, four drachms.
Glycerine, eight drachms.
Water, to a pint.
Mix. To be used three or four times a day.
About two table-spoonfuls to be taken into the mouth for each act of gargling, and this should be repeated four times on each occasion.

105.—*Inhalation of Friar's Balsam.*

Compound tincture of benzoin (Friar's balsam), an ounce.
A tea-spoonful in a pint of hot water (the right temperature is 140° Fahr.) for each inhalation. To be used for ten minutes three or four times a day. A common jug will do, but it is better to have a proper inhaler, such as Martindale's Portable Inhaler. Not more than six inspirations should be taken in the minute, and to avoid catching cold you should not go out for half an hour after each inhalation.

106.—*Iodine Inhalation.*

Tincture of iodine, an ounce.
Ten drops in a pint of hot water, to be used as an inhalation as directed above.

107.—*Inhalation of Oil of Juniper.*

English oil of juniper, twenty minims.
Light carbonate of magnesia, ten grains.
Water, to an ounce.
Mix. A tea-spoonful in a pint of hot water for an inhalation three or four times a day, as directed above.

108.—*Voice Lozenges.*

Benzoic acid, half a grain, made into a lozenge with red currant paste. Each lozenge is marked "B.A." One every four hours, and one a quarter of an hour before using the voice.

109.—*"M.A." Lozenges.*

Each contains two grains of chloride of ammonium with black currant paste. One or two may be taken every three hours or oftener. They are marked "M.A."

110.—*Tannic Acid Lozenges.*

Each contains a grain and a half of tannic acid with black currant paste. One or two may be taken every three hours or oftener. They are marked "T."

111.—*Rhatany Lozenges.*

Each contains three grains of extract of rhatany with red currant paste. One or two to be taken every three hours or oftener. They are marked "R."

112.—*Chlorate of Potash Lozenges.*

Those of the British Pharmacopœia are hard and not very nice. They are better made with black currant paste. Each contains three grains, and one or two should be taken occasionally. They are marked "P."

Wyeth's compressed tablets of chlorate of potash are excellent.







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